

=> fil reg
FILE 'REGISTRY' ENTERED AT 11:50:50 ON 14 NOV 2008
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STRUCTURE FILE UPDATES: 13 NOV 2008 HIGHEST RN 1072687-23-0
DICTIONARY FILE UPDATES: 13 NOV 2008 HIGHEST RN 1072687-23-0

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TSCA INFORMATION NOW CURRENT THROUGH July 5, 2008.

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REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stndoc/properties.html>

=> d his nofile

(FILE 'HOME' ENTERED AT 10:38:18 ON 14 NOV 2008)

FILE 'HCAPLUS' ENTERED AT 10:38:32 ON 14 NOV 2008

L1 1 SEA ABB=ON PLU=ON US20060052533/PN
D SCA
D IALL
SEL RN

FILE 'REGISTRY' ENTERED AT 10:39:00 ON 14 NOV 2008

L2 4 SEA ABB=ON PLU=ON (111-30-8/B1 OR 28388-89-8/B1 OR
51651-40-2/B1 OR 9002-89-5/B1)
D SCA

FILE 'HCAPLUS' ENTERED AT 10:39:18 ON 14 NOV 2008

L3 1 SEA ABB=ON PLU=ON L1 AND L2
D HITSTR

FILE 'REGISTRY' ENTERED AT 10:44:36 ON 14 NOV 2008

L4 1 SEA ABB=ON PLU=ON 9002-89-5/RN
L5 1 SEA ABB=ON PLU=ON 28388-89-8/RN

FILE 'LREGISTRY' ENTERED AT 11:07:52 ON 14 NOV 2008

L6 STR

FILE 'REGISTRY' ENTERED AT 11:08:31 ON 14 NOV 2008

L7 0 SEA SSS SAM L6

FILE 'REGISTRY' ENTERED AT 11:10:03 ON 14 NOV 2008

L8 1 SEA ABB=ON PLU=ON 111-30-8/RN
D SCA

L9 1 SEA ABB=ON PLU=ON 51651-40-2/RN

D SCA

FILE 'LREGISTRY' ENTERED AT 11:11:12 ON 14 NOV 2008

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 L11 813 SEA ABB=ON PLU=ON ?ALDEHYDE/CNS AND 3/ELC.SUB
 L12 146 SEA ABB=ON PLU=ON L11 NOT NR>=1 NOT (M OR N OR S OR SI
 OR P)/ELS
 L13 14 SEA ABB=ON PLU=ON L12 AND ?DIAL?/CNS

FILE 'REGISTRY' ENTERED AT 11:14:27 ON 14 NOV 2008

L14 2661 SEA ABB=ON PLU=ON ?ALDEHYDE/CNS AND 3/ELC.SUB NOT
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 L15 196 SEA ABB=ON PLU=ON L14 AND ?DIAL?/CNS
 L16 1 SEA ABB=ON PLU=ON ETHANEDIAL/CN
 L17 195 SEA ABB=ON PLU=ON L15 NOT L16
 L18 170 SEA ABB=ON PLU=ON L17 NOT PMS/CI
 L19 112 SEA ABB=ON PLU=ON L18 NOT OXY
 D COST
 L20 92 SEA ABB=ON PLU=ON L19 NOT ?HYDROXY?/CNS
 L21 2 SEA ABB=ON PLU=ON L2 AND L20
 D COST
 SAV L20 BER019A/A
 DEL BER019A/A
 SAV L20 BER019F5/A
 L22 2 SEA ABB=ON PLU=ON L4 OR L5

FILE 'HCAPLUS' ENTERED AT 11:25:14 ON 14 NOV 2008

L23 77031 SEA ABB=ON PLU=ON L22
 L24 27796 SEA ABB=ON PLU=ON L20
 L25 842 SEA ABB=ON PLU=ON L23 AND L24
 L26 1875 SEA ABB=ON PLU=ON L22(L)RACT/RL
 L27 3596 SEA ABB=ON PLU=ON L20(L)RACT/RL
 L28 63 SEA ABB=ON PLU=ON L26 AND L27
 L29 37 SEA ABB=ON PLU=ON L28 AND (PY<=2003 OR PRY<=2003 OR
 AY<=2003)
 L30 QUE ABB=ON PLU=ON CROSSLINK? OR CROSS?(A)LINK?
 L31 21 SEA ABB=ON PLU=ON L29 AND L30
 L32 2154 SEA ABB=ON PLU=ON L22(L)L30
 L33 2532 SEA ABB=ON PLU=ON L20(L)L30
 L34 9 SEA ABB=ON PLU=ON L31 AND L32
 L35 13 SEA ABB=ON PLU=ON L31 AND L33
 L36 8 SEA ABB=ON PLU=ON L34 AND L35

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 9003-39-8/BI OR 9004-34-6/BI OR 9012-76-4/BI OR 92451-01-
 9/BI)

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 L39 8 SEA ABB=ON PLU=ON L36 AND L38
 SEL L31 RN

L40 13 SEA ABB=ON PLU=ON L31 NOT L39
 SEL RN L40

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FILE 'HCAPLUS' ENTERED AT 11:49:28 ON 14 NOV 2008
 L42 2369478 SEA ABB=ON PLU=ON L41
 L43 13 SEA ABB=ON PLU=ON L40 AND L42

=> fil hcap
 FILE 'HCAPLUS' ENTERED AT 11:50:52 ON 14 NOV 2008
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FILE COVERS 1907 - 14 Nov 2008 VOL 149 ISS 21
 FILE LAST UPDATED: 13 Nov 2008 (20081113/ED)

HCAplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2008.

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This file contains CAS Registry Numbers for easy and accurate substance identification.

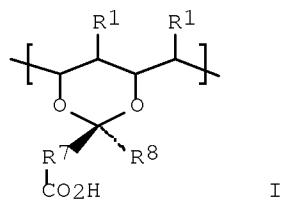
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L39 ANSWER 1 OF 8 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2004:587942 HCAPLUS Full-text
 DOCUMENT NUMBER: 141:124156
 TITLE: Crosslinking of poly(vinyl acetals)
 INVENTOR(S): Papenfuhs, Bernd; Steuer, Martin; Gutweiler, Matthias
 PATENT ASSIGNEE(S): Kuraray Specialities Europe GmbH, Germany
 SOURCE: Ger. Offen., 12 pp.
 CODEN: GWXXBX
 DOCUMENT TYPE: Patent
 LANGUAGE: German
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 10319201	A1	20040722	DE 2003-10319201	200304 29
WO 2004063231	A1	20040729	WO 2003-EP14109	200312 12
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AU 2003294838	A1	20040810	AU 2003-294838	200312 12
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BR 2003017977	A	20051206	BR 2003-17977	

EP 1622946	A1	20060208	EP 2003-785800	200312 12
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CN 1759125	A	20060412	CN 2003-80110133	200312 12
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CN 100343288	C	20071017		
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PRIORITY APPLN. INFO.:			DE 2003-10300321	IA 200301 09
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			DE 2003-10319201	A 200304 29
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			WO 2003-EP14109	W 200312 12
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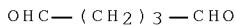
AB The poly(vinyl acetals) are crosslinked by reacting a polymer containing structural units (1) CHOHCHR1 ($\text{R1} = \text{H, Me}$), i.e., poly(vinyl alc.) or poly(propenyl alc.), and optionally structural units (2) $\text{CHO}_2\text{CR}_2\text{CHR1}$ ($\text{R2} = \text{H, C1-6 alkyl}$), (3) $\text{CR}_5\text{R}_6\text{CR}_3\text{R}_4$ ($\text{R3-R6} = \text{residues with mol. weight 1-500 g/mol}$) and acetal units I [$\text{R7} = \text{bond, C1-10 alkylene, (un)substituted C6-12 arylene; R8} = \text{H, CO}_2\text{H, C1-10 alkyl, (un)substituted C6-12 aryl}$] with a polyaldehyde R9(CHO)_n ($\text{R9} = \text{C1-40 residue; } n \geq 2$), e.g., pentanedral or nonanedral, and with esterification of structural units (1) with structural units I. The crosslinked poly(vinyl acetals) are useful for manufacture of plastic films, laminated safety glass, for coatings and as ion-conductive intermediate layers for electrochromic systems (no examples).

November 14, 2008

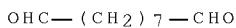
10/542,019

6

IT 111-30-8, Glutardialdehyde 51651-40-2,
1,9-Nonanodial
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinking agent; crosslinking of
poly(vinyl acetals) with polyaldehydes)
RN 111-30-8 HCAPLUS
CN Pentanodial (CA INDEX NAME)



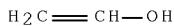
RN 51651-40-2 HCAPLUS
CN Nonanodial (CA INDEX NAME)



IT 9002-89-5, Poly(vinyl alcohol) 28388-89-8,
Poly(propenyl alcohol)
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinking of poly(vinyl acetals) with
polyaldehydes)
RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

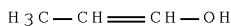
CRN 557-75-5
CMF C2 H4 O



RN 28388-89-8 HCAPLUS
CN 1-Propen-1-ol, homopolymer (9CI) (CA INDEX NAME)

CM 1

CRN 3965-44-4
CMF C3 H6 O



IC ICM C08F008-28
ICS C08F008-14; C08F016-00
CC 35-8 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 38, 74, 76
ST polyvinyl acetal crosslinking polyaldehyde; dialdehyde
crosslinking agent polyvinyl acetal
IT Windshields

(automotive; crosslinking of poly(vinyl acetals) with polyaldehydes)

IT Coating materials

Crosslinking

Plastic films

(crosslinking of poly(vinyl acetals) with polyaldehydes)

IT Polyvinyl acetals

RL: RCT (Reactant); RACT (Reactant or reagent)

(crosslinking of poly(vinyl acetals) with polyaldehydes)

IT Safety glass

RL: TEM (Technical or engineered material use); USES (Uses)

(laminated safety glass; crosslinking of poly(vinyl acetals) with polyaldehydes)

IT Crosslinking agents

(polyaldehydes; crosslinking of poly(vinyl acetals) with)

IT Aldehydes, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(polyfunctional, crosslinking agents; crosslinking of poly(vinyl acetals) with)

IT Laminated glass

RL: TEM (Technical or engineered material use); USES (Uses)

(safety glass; crosslinking of poly(vinyl acetals) with polyaldehydes)

IT 111-30-8, Glutardialdehyde 51651-40-2,
1,9-Nonanediol

RL: RCT (Reactant); RACT (Reactant or reagent)

(crosslinking agent; crosslinking of poly(vinyl acetals) with polyaldehydes)

IT 9002-89-5, Poly(vinyl alcohol) 28388-89-8,
Poly(propenyl alcohol)

RL: RCT (Reactant); RACT (Reactant or reagent)

(crosslinking of poly(vinyl acetals) with polyaldehydes)

L39 ANSWER 2 OF 8 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:396921 HCPLUS Full-text

DOCUMENT NUMBER: 138:403265

TITLE: Gel composition, use and method to homogeneously modify or crosslink chitosan under neutral conditions

INVENTOR(S): Chenite, Abdellatif; Berrada, Mohammed; Chaput, Cyril; Dabbarh, Fouad; Selmani, Amine

PATENT ASSIGNEE(S): Biosyntech Canada Inc., Can.

SOURCE: PCT Int. Appl., 38 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2003042250	A1	20030522	WO 2002-CA1756	200211

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 CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD,
 GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,
 LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,
 NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SI, SK, SL,
 TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
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RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ,
 BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK,
 EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR,
 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
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CA 2467049 A1 20030522 CA 2002-2467049

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US 20030129730 A1 20030710 US 2002-298257

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US 7098194 B2 20060829
 EP 1448607 A1 20040825 EP 2002-779062

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PRIORITY APPLN. INFO.: US 2001-331415P P

200111
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WO 2002-CA1756

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200211
15

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AB The title method for chemical modifying chitosan, includes N-substituting or N-crosslinking, under homogeneous conditions, neutral aqueous chitosan solns. The method comprises (i) preparing a clear aqueous solution of chitosan, the solution comprising 0.1-10% chitosan, and 0.1-20% ≥ 1 buffering agent having a pKa 6.0-7.6, the solution having a pH 6.8-7.2 and (ii) dissolving homogeneously ≥ 1 reagent into the solution of step (a), the reagent being reactive toward amine groups of chitosan, and the reagent at a concentration 0.01-10 wt%. The chitosan in the aqueous solution is chemical modified or crosslinked by a selective substitution on the amino group of chitosan.

IT 107-22-2, Glyoxal 26403-72-5, Polyethylene glycol diglycidyl ether

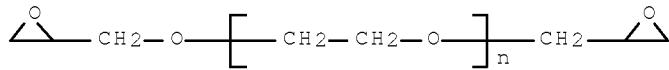
RL: RCT (Reactant); RACT (Reactant or reagent)
 (crosslinker; modifying or crosslinking
 chitosan under neutral conditions)

RN 107-22-2 HCPLUS

CN Ethanodial (CA INDEX NAME)



RN 26403-72-5 HCPLUS

CN Poly(oxy-1,2-ethanediyl), α -(2-oxiranylmethyl)- ω -(2-oxiranylmethoxy)- (CA INDEX NAME)

IT 50-00-0, Formaldehyde, reactions 111-30-8, Glutaraldehyde 9002-89-5, Poly(vinyl alcohol)

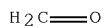
9003-39-8, Poly(vinylpyrrolidone) 128114-91-0

RL: RCT (Reactant); RACT (Reactant or reagent)

(for modifying or crosslinking chitosan under neutral conditions)

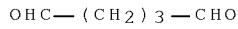
RN 50-00-0 HCPLUS

CN Formaldehyde (CA INDEX NAME)



RN 111-30-8 HCPLUS

CN Pentanodial (CA INDEX NAME)



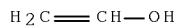
RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

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CRN 557-75-5

CMF C2 H4 O



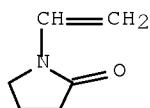
RN 9003-39-8 HCPLUS

CN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (CA INDEX NAME)

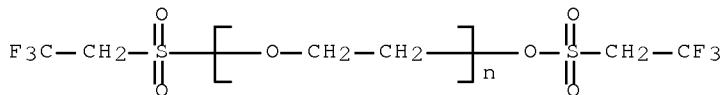
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CRN 88-12-0

CMF C6 H9 N O



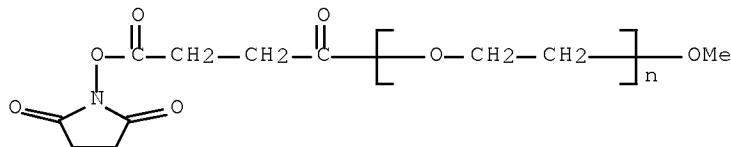
RN 128114-91-0 HCPLUS

CN Poly(oxy-1,2-ethanediyl), α -[(2,2,2-trifluoroethyl)sulfonyl]- ω -[(2,2,2-trifluoroethyl)sulfonyloxy]- (9CI) (CA INDEX NAME)

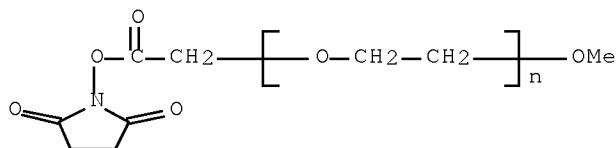
IT 78274-32-5 92451-01-9

RL: RCT (Reactant); RACT (Reactant or reagent)
(grafting; modifying or crosslinking chitosan under
neutral conditions)

RN 78274-32-5 HCPLUS

CN Poly(oxy-1,2-ethanediyl), α -[4-[(2,5-dioxo-1-pyrrolidinyl)oxy]- ω -methoxy- (CA INDEX NAME)

RN 92451-01-9 HCPLUS

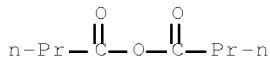
CN Poly(oxy-1,2-ethanediyl), α -[2-[(2,5-dioxo-1-pyrrolidinyl)oxy]- ω -methoxy- (CA INDEX NAME)IT 106-31-0DP, Butyric anhydride, reaction products with
chitosan 108-24-7DP, Acetic anhydride, reaction products
with chitosan 9012-76-4DP, Chitosan, reaction products
with acetic or butyric anhydride 193749-88-1P,
Chitosan-polyethylene glycol graft copolymerRL: IMF (Industrial manufacture); PREP (Preparation)
(modifying or crosslinking chitosan under neutral
conditions)

November 14, 2008

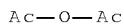
10/542,019

11

RN 106-31-0 HCAPLUS
CN Butanoic acid, 1,1'-anhydride (CA INDEX NAME)



RN 108-24-7 HCAPLUS
CN Acetic acid, 1,1'-anhydride (CA INDEX NAME)



RN 9012-76-4 HCAPLUS
CN Chitosan (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
RN 193749-88-1 HCAPLUS
CN Chitosan, polymer with oxirane, graft (CA INDEX NAME)

CM 1

CRN 9012-76-4
CMF Unspecified
CCI PMS, MAN

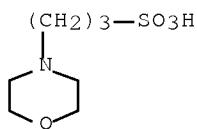
*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

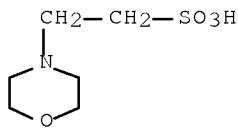
CRN 75-21-8
CMF C2 H4 O



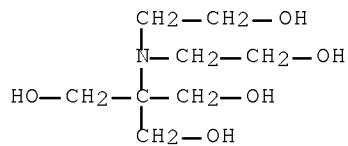
IT 1132-61-2, 4-Morpholinepropanesulfonic acid
4432-31-9, 2-Morpholinoethanesulfonic acid 6976-37-0
, 2-Bis(2-hydroxyethyl)amino-2-(hydroxymethyl)-1,3-propanediol
7365-45-9, 4-(2-Hydroxyethyl)piperazine-1-ethanesulfonic
acid 10191-18-1, N,N-Bis(2-hydroxyethyl)-2-
aminoethanesulfonic acid 64431-96-5,
1,3-Bis[tris(hydroxymethyl)methylamino]propane 68399-77-9
68399-80-4 115724-21-5, 4-Morpholinebutanesulfonic
acid 161308-36-7
RL: RGT (Reagent); RACT (Reactant or reagent)
(modifying or crosslinking chitosan under neutral
conditions)
RN 1132-61-2 HCAPLUS
CN 4-Morpholinepropanesulfonic acid (CA INDEX NAME)



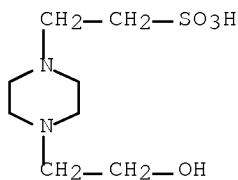
RN 4432-31-9 HCAPLUS
 CN 4-Morpholineethanesulfonic acid (CA INDEX NAME)



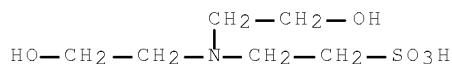
RN 6976-37-0 HCAPLUS
 CN 1,3-Propanediol, 2-[bis(2-hydroxyethyl)amino]-2-(hydroxymethyl)- (CA INDEX NAME)



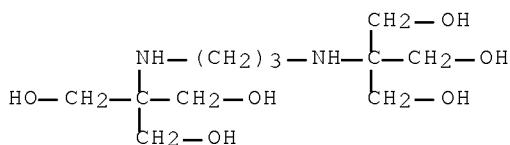
RN 7365-45-9 HCAPLUS
 CN 1-Piperazineethanesulfonic acid, 4-(2-hydroxyethyl)- (CA INDEX NAME)



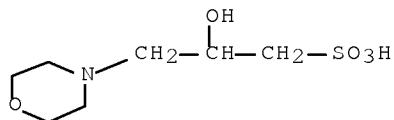
RN 10191-18-1 HCAPLUS
 CN Ethanesulfonic acid, 2-[bis(2-hydroxyethyl)amino]- (CA INDEX NAME)



RN 64431-96-5 HCAPLUS
 CN 1,3-Propanediol, 2,2'-(1,3-propanediylidimino)bis[2-(hydroxymethyl)- (CA INDEX NAME)

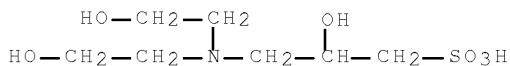


RN 68399-77-9 HCAPLUS

CN 4-Morpholinepropanesulfonic acid, β -hydroxy- (CA INDEX NAME)

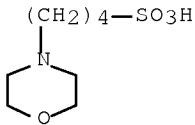
RN 68399-80-4 HCAPLUS

CN 1-Propanesulfonic acid, 3-[bis(2-hydroxyethyl)amino]-2-hydroxy- (CA INDEX NAME)



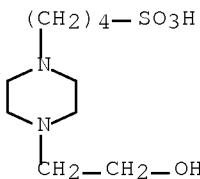
RN 115724-21-5 HCAPLUS

CN 4-Morpholinebutanesulfonic acid (CA INDEX NAME)



RN 161308-36-7 HCAPLUS

CN 1-Piperazinebutanesulfonic acid, 4-(2-hydroxyethyl)- (CA INDEX NAME)



IC ICM C08B037-08

CC 44-5 (Industrial Carbohydrates)

ST chitosan crosslinking chem modification

IT Hydrogels
 (modifying or crosslinking chitosan under neutral conditions forming)

IT 107-22-2, Glyoxal 26403-72-5, Polyethylene glycol diglycidyl ether
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (crosslinker; modifying or crosslinking chitosan under neutral conditions)

IT 50-00-0, Formaldehyde, reactions 111-30-8,
 Glutaraldehyde 9002-89-5, Poly(vinyl alcohol)
 9003-39-8, Poly(vinylpyrrolidone) 128114-91-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (for modifying or crosslinking chitosan under neutral conditions)

IT 78274-32-5 92451-01-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (grafting; modifying or crosslinking chitosan under neutral conditions)

IT 106-31-0DP, Butyric anhydride, reaction products with chitosan 108-24-7DP, Acetic anhydride, reaction products with chitosan 9012-76-4DP, Chitosan, reaction products with acetic or butyric anhydride 193749-88-1P,
 Chitosan-polyethylene glycol graft copolymer
 RL: IMF (Industrial manufacture); PREP (Preparation)
 (modifying or crosslinking chitosan under neutral conditions)

IT 1132-61-2, 4-Morpholinepropanesulfonic acid
 4432-31-9, 2-Morpholinoethanesulfonic acid 6976-37-0
 , 2-Bis(2-hydroxyethyl)amino-2-(hydroxymethyl)-1,3-propanediol
 7365-45-9, 4-(2-Hydroxyethyl)piperazine-1-ethanesulfonic acid 10191-18-1, N,N-Bis(2-hydroxyethyl)-2-aminoethanesulfonic acid 64431-96-5,
 1,3-Bis[tris(hydroxymethyl)methylamino]propane 68399-77-9
 68399-80-4 115724-21-5, 4-Morpholinebutanesulfonic acid 161303-36-7
 RL: RGT (Reagent); RACT (Reactant or reagent)
 (modifying or crosslinking chitosan under neutral conditions)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 3 OF 8 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2002:596624 HCPLUS Full-text
 DOCUMENT NUMBER: 138:309107
 TITLE: Crosslinked poly(vinyl alcohol)
 hydrogel: study of swelling and drug release behavior
 AUTHOR(S): Varshosaz, Jaleh; Koopaie, Niloufar
 CORPORATE SOURCE: Department of Pharmaceutics, School of Pharmacy and Pharmaceutical Sciences, Isfahan University of Medical Sciences, Esfahan, Iran
 SOURCE: Iranian Polymer Journal (2002), 11(2), 123-131
 CODEN: IPJOFF; ISSN: 1026-1265
 PUBLISHER: Iran Polymer Institute
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Cross-linked poly (vinyl alc.) (PVA) is a prolonged-release micromatrix, a hydrophilic polymer and a potentially interesting hydrogel, which is useful

for drug delivery applications. As a part of drug development procedure the aim of this study was to investigate the effect of structural changes on drug release (theophylline) from this polymeric network. The studied parameters included: crosslinking agent (glutaraldehyde) concentration, PVA content of the films, theophylline percentage and their overall effect on swelling of the hydrogels, drug loading efficiency, diffusion and release characteristics of theophylline from PVA films. Changes in glutaraldehyde percentage (or crosslinking d.) affected the swelling of the films. However, increasing PVA percentage caused more swelling. Drug loading efficiency was higher in gels with higher glutaraldehyde, PVA and theophylline percentages. Increasing contents of PVA and theophylline promoted the diffusion coefficient and drug release rate but glutaraldehyde had a reverse effect. The pH did not affect the swelling and diffusion coefficient. Water transport and drug release mechanism predominantly followed a Fickian model. It may be concluded that by changing the PVA structural parameters, a rate-controlled drug release is obtained.

IT 9002-89-5, PVA

RL: DEV (Device component use); PRP (Properties); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)

(swelling and drug release behavior of crosslinked poly(vinyl alc.) hydrogel)

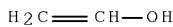
RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



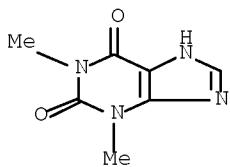
IT 58-55-9, (Theophylline), biological studies

RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(swelling and drug release behavior of crosslinked poly(vinyl alc.) hydrogel)

RN 58-55-9 HCPLUS

CN 1H-Purine-2,6-dione, 3,9-dihydro-1,3-dimethyl- (CA INDEX NAME)



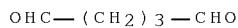
IT 111-30-8, Glutaraldehyde

RL: RCT (Reactant); RACT (Reactant or reagent)

(swelling and drug release behavior of crosslinked poly(vinyl alc.) hydrogel)

RN 111-30-8 HCPLUS

CN Pentanedral (CA INDEX NAME)



CC 63-6 (Pharmaceuticals)
 IT Polyvinyl acetals
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)
 (glutarals; swelling and drug release behavior of crosslinked poly(vinyl alc.) hydrogel)
 IT Drug delivery systems
 (hydrogels, controlled-release; swelling and drug release behavior of crosslinked poly(vinyl alc.) hydrogel)
 IT Crosslinking
 Diffusion
 Dissolution
 Swelling, physical
 (swelling and drug release behavior of crosslinked poly(vinyl alc.) hydrogel)
 IT 9002-89-5, PVA
 RL: DEV (Device component use); PRP (Properties); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)
 (swelling and drug release behavior of crosslinked poly(vinyl alc.) hydrogel)
 IT 58-55-9, (Theophylline), biological studies
 RL: PRP (Properties); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
 (swelling and drug release behavior of crosslinked poly(vinyl alc.) hydrogel)
 IT 111-30-8, Glutaraldehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (swelling and drug release behavior of crosslinked poly(vinyl alc.) hydrogel)
 REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L39 ANSWER 4 OF 8 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2001:705441 HCPLUS Full-text
 DOCUMENT NUMBER: 135:372281
 TITLE: On the viscoelastic properties of poly(vinyl alcohol) and chemically crosslinked poly(vinyl alcohol)
 AUTHOR(S): Park, Jun-Seo; Park, Jang-Woo; Ruckenstein, Eli
 CORPORATE SOURCE: Department of Chemical Engineering, Hankyong National University, Kyunggi-do, 456-749, S. Korea
 SOURCE: Journal of Applied Polymer Science (2001), 82(7), 1816-1823
 CODEN: JAPNAB; ISSN: 0021-8995
 PUBLISHER: John Wiley & Sons, Inc.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB Poly(vinyl alc.) (PVA) films chemical crosslinked with glutaraldehyde in the presence of HCl were prepared by casting from aqueous solution. The PVA and

PVA gels were investigated by DSC, TGA and DMA; their swelling characteristics and tensile strength also were determined. The DSC results for the gels displayed depressions of the melting and crystallization temps., as well as a decrease in the heat of fusion, when compared to those of PVA free of crosslinker. DMA anal. revealed that the Tg of the wet PVA was lower than that of the dry one, indicating that water has a plasticizing effect. Also, the gels have a lower Tg than PVA and the Tg of the wet gels increases with increasing crosslink d. Possible explanations are provided for these observations. PVA exhibits a single degradation peak, while two degradation peaks were detected for crosslinked PVA. The wet PVA and PVA gels display lower tensile strength and higher elongation than the dried ones.

IT 9002-89-5, Poly(vinyl alcohol)
 RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
 (viscoelastic properties of poly(vinyl alc.) and chemical crosslinked poly(vinyl alc.))

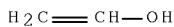
RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

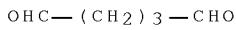
CM 1

CRN 557-75-5

CMF C2 H4 O



IT 111-30-8, Glutaraldehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (viscoelastic properties of poly(vinyl alc.) crosslinked with)
 RN 111-30-8 HCPLUS
 CN Pentanodial (CA INDEX NAME)



CC 36-5 (Physical Properties of Synthetic High Polymers)
 ST polyvinyl alc viscoelastic property; crosslinked polyvinyl alc viscoelastic property
 IT Glass transition temperature
 Mechanical loss
 Swelling, physical
 Tensile strength
 Thermal properties
 (of poly(vinyl alc.) and chemical crosslinked poly(vinyl alc.))
 IT 9002-89-5, Poly(vinyl alcohol)
 RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
 (viscoelastic properties of poly(vinyl alc.) and chemical crosslinked poly(vinyl alc.))
 IT 111-30-8, Glutaraldehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (viscoelastic properties of poly(vinyl alc.) crosslinked with)

REFERENCE COUNT:

22

THERE ARE 22 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

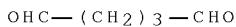
L39 ANSWER 5 OF 8 HCPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2001:220984 HCPLUS Full-text
DOCUMENT NUMBER: 134:297360
TITLE: Cellulose functionalization by glutaraldehyde
(GA)
AUTHOR(S): Wang, Yuhong; Hsieh, You-Lo
CORPORATE SOURCE: Fiber and Polymer Science, University of
California, Davis, CA, 95616, USA
SOURCE: Polymer Preprints (American Chemical Society,
Division of Polymer Chemistry) (2001),
42(1), 520-521
CODEN: ACPPAY; ISSN: 0032-3934
PUBLISHER: American Chemical Society, Division of Polymer
Chemistry
DOCUMENT TYPE: Journal; (computer optical disk)
LANGUAGE: English

AB To provide cellulose for further functionalization reactions, cellulose was activated by reaction (acetalization) with glutaraldehyde (GA) using Al₂(SO₄)₃ as catalyst. FTIR spectroscopy revealed presence of aldehyde groups on GA-activated cellulose. The degree of GA-activation was studied in dependence of curing time, catalyst/GA ratios, and GA concentration. Aldehyde groups of GA-activated cellulose crosslinked with poly(vinyl alc.) (PVA) when immersed into PVA solution by forming 3-dimensional gel networks.

IT 111-30-8DP, Glutaraldehyde, reaction products with cellulose
9004-34-6DP, Cellulose, reaction products with
glutaraldehyde, reactions
RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);
PREP (Preparation); RACT (Reactant or reagent)
(cellulose functionalization by glutaraldehyde and
crosslinking with poly(vinyl alc.))

RN 111-30-8 HCPLUS

CN Pentanedral (CA INDEX NAME)



RN 9004-34-6 HCPLUS
CN Cellulose (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 9002-89-5, Poly(vinyl alcohol)
RL: RCT (Reactant); RACT (Reactant or reagent)
(cellulose functionalization by glutaraldehyde and
crosslinking with poly(vinyl alc.))

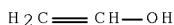
RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

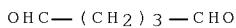
CMF C₂ H₄ O



CC 43-3 (Cellulose, Lignin, Paper, and Other Wood Products)
 Section cross-reference(s): 37
 ST cellulose acetal glutaraldehyde crosslinking polyvinyl
 alc; functionalization cellulose glutaraldehyde
 IT 111-30-8DP, Glutaraldehyde, reaction products with cellulose
 9004-34-6DP, Cellulose, reaction products with
 glutaraldehyde, reactions
 RL: PRP (Properties); RCT (Reactant); SPN (Synthetic preparation);
 PREP (Preparation); RACT (Reactant or reagent)
 (cellulose functionalization by glutaraldehyde and
 crosslinking with poly(vinyl alc.))
 IT 9002-89-5, Poly(vinyl alcohol)
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (cellulose functionalization by glutaraldehyde and
 crosslinking with poly(vinyl alc.))

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR
 THIS RECORD. ALL CITATIONS AVAILABLE IN
 THE RE FORMAT

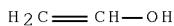
L39 ANSWER 6 OF 8 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2000:365186 HCPLUS Full-text
 DOCUMENT NUMBER: 133:105706
 TITLE: Crosslinking of PVA and glutaraldehyde
 in water monitored by viscosity and pulse field
 gradient NMR: A comparative study
 AUTHOR(S): Hansen, Eddy W.; Bouzga, Aud M.; Sommer, Britt;
 Kvernberg, Per Olav
 CORPORATE SOURCE: SINTEF Applied Chemistry, Oslo, N-0314, Norway
 SOURCE: Polymers for Advanced Technologies (2000
), 11(4), 185-191
 CODEN: PADTE5; ISSN: 1042-7147
 PUBLISHER: John Wiley & Sons Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB The crosslinking of poly(vinyl alc.) (PVA) with glutaraldehyde at 80° was
 characterized by viscosity and pulse field gradient (PFG) NMR techniques. NMR
 signified an initial dormant period of .apprx.6 h, in which the self-diffusion
 coefficient of PVA was constant and independent of time. During the next 7 h
 (the primary gel period), this induction period was succeeded by a fast decay
 of the self-diffusion coefficient of rate (9.13±0.45) + 10-5 sec-1 followed by
 a slower decay rate of (3.22±0.30) + 10-5 sec-1 (the secondary gel period).
 The viscosity of the solution showed the same time behavior, i.e., an initial
 dormant period, followed by a fast increase of the viscosity for the next 7-8
 h. During the secondary gel regime, the viscosity became too large to be
 reliably determined. However, within the time regime where both techniques
 produced reliable data, they gave identical information regarding the kinetics
 of the gel process, suggesting that PFG NMR enables *in situ* monitoring of
 gelation within porous materials.
 IT 111-30-8, Glutaraldehyde 9002-89-5, Poly(vinyl
 alcohol)
 RL: PEP (Physical, engineering or chemical process); RCT (Reactant);
 PROC (Process); RACT (Reactant or reagent)
 (kinetics of glutaraldehyde crosslinking of poly(vinyl
 alc.) in water)
 RN 111-30-8 HCPLUS
 CN Pentanedral (CA INDEX NAME)



RN 9002-89-5 HCPLUS
 CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

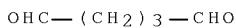
CRN 557-75-5
 CMF C2 H4 O



CC 37-6 (Plastics Manufacture and Processing)
 ST kinetics glutaraldehyde crosslinking polyvinyl alc
 IT Crosslinking kinetics
 (kinetics of glutaraldehyde crosslinking of poly(vinyl
 alc.) in water)
 IT 111-30-8, Glutaraldehyde 9002-89-5, Poly(vinyl
 alcohol)
 RL: PEP (Physical, engineering or chemical process); RCT (Reactant);
 PROC (Process); RACT (Reactant or reagent)
 (kinetics of glutaraldehyde crosslinking of poly(vinyl
 alc.) in water)
 REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L39 ANSWER 7 OF 8 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1997:725242 HCPLUS Full-text
 DOCUMENT NUMBER: 128:59129
 ORIGINAL REFERENCE NO.: 128:11499a,11502a
 TITLE: Novel diazonium-functionalized support for
 immobilization experiments
 AUTHOR(S): Curreli, N.; Oliva, S.; Rescigno, A.; Rinaldi,
 A. C.; Sollai, F.; Sanjust, E.
 CORPORATE SOURCE: Istituto di Chimica Biologica, Universita di
 Cagliari, Cagliari, I-09125, Italy
 SOURCE: Journal of Applied Polymer Science (1997
), 66(8), 1433-1438
 CODEN: JAPNAB; ISSN: 0021-8995
 PUBLISHER: Wiley
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A hydrophilic, water-insol. polymer was prepared, starting from com.
 poly(vinyl alc.) that was crosslinked and functionalized by means of
 glutaraldehyde and 4-nitrobenzaldehyde. The resulting beads were then reduced
 and subsequently diazotized, and finally contained diazonium moieties capable
 of covalently coupling with electron-rich aromatic systems such as histidine
 and/or tyrosine residues of proteins. The described resin is therefore well
 suitable for protein immobilization whenever lysine residues (those involved
 in covalent coupling with several popular immobilization procedures) are not
 available and/or cannot be used unless the biol. activity of the protein is
 destroyed.

IT 111-30-8, Glutaraldehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (crosslinker; preparation of a novel
 diazonium-functionalized support for protein immobilization
 expts.)
 RN 111-30-8 HCPLUS
 CN Pentanedral (CA INDEX NAME)

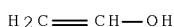


IT 9001-22-3, β -Glucosidase
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (immobilization; preparation of a novel diazonium-functionalized
 support for protein immobilization expts.)
 RN 9001-22-3 HCPLUS
 CN Glucosidase, β - (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
 IT 9002-89-5DP, Poly(vinyl alcohol), diazonium-functionalized
 crosslinked resin
 RL: NUU (Other use, unclassified); RCT (Reactant); SPN (Synthetic
 preparation); PREP (Preparation); RACT (Reactant or reagent)
 ; USES (Uses)
 (preparation of a novel diazonium-functionalized support for protein
 immobilization expts.)
 RN 9002-89-5 HCPLUS
 CN Ethenol, homopolymer (CA INDEX NAME)

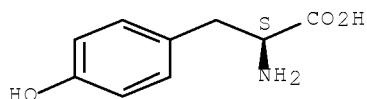
CM 1

CRN 557-75-5
 CMF C2 H4 O



IT 60-18-4, L-Tyrosine, reactions 71-00-1,
 L-Histidine, reactions 555-16-8, 4-Nitrobenzaldehyde,
 reactions 9002-89-5, Poly(vinyl alcohol)
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of a novel diazonium-functionalized support for protein
 immobilization expts.)
 RN 60-18-4 HCPLUS
 CN L-Tyrosine (CA INDEX NAME)

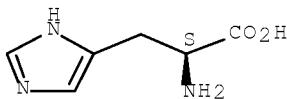
Absolute stereochemistry. Rotation (-).



RN 71-00-1 HCAPLUS

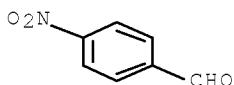
CN L-Histidine (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



RN 555-16-8 HCAPLUS

CN Benzaldehyde, 4-nitro- (CA INDEX NAME)



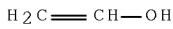
RN 9002-89-5 HCAPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



CC 9-16 (Biochemical Methods)

Section cross-reference(s): 7

IT 111-30-8, Glutaraldehyde

RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinker; preparation of a novel diazonium-functionalized support for protein immobilization expts.)IT 9001-22-3, β -GlucosidaseRL: RCT (Reactant); RACT (Reactant or reagent)
(immobilization; preparation of a novel diazonium-functionalized support for protein immobilization expts.)

IT 9002-89-5DP, Poly(vinyl alcohol), diazonium-functionalized crosslinked resin

RL: NUU (Other use, unclassified); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of a novel diazonium-functionalized support for protein immobilization expts.)

IT 60-18-4, L-Tyrosine, reactions 71-00-1,

L-Histidine, reactions 555-16-8, 4-Nitrobenzaldehyde, reactions 9002-89-5, Poly(vinyl alcohol)

RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of a novel diazonium-functionalized support for protein immobilization expts.)

November 14, 2008

10/542,019

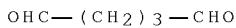
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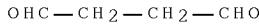
18

THERE ARE 18 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L39 ANSWER 8 OF 8 HCPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1981:570223 HCPLUS Full-text
DOCUMENT NUMBER: 95:170223
ORIGINAL REFERENCE NO.: 95:28477a,28480a
TITLE: Mechanical-rheological studies on polymer
networks. I. Effect of the conditions of
crosslinking on the mechanical
properties
AUTHOR(S): Horkay, F.; Nagy, M.
CORPORATE SOURCE: Natl. Inst. Occup. Health, Eotvos Lorand Univ.,
Budapest, Hung.
SOURCE: Acta Chimica Academiae Scientiarum Hungaricae (1981), 107(4), 321-34
CODEN: ACASA2; ISSN: 0001-5407
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Unidirectional compression measurements of poly(vinyl alc.) [9002-89-5] and
vinyl alc.-vinyl acetate copolymer (I) gels crosslinked at 298 K with
glutaraldehyde [111-30-8] or succinaldehyde [638-37-9] showed that the
efficiency of crosslinking increased with increasing initial polymer
concentration and degree of crosslinking. Thermodn. good solvents, long-chain
crosslinking agents, and decreasing the acetate content of I favored
crosslinking. In contrast to existing theories, the topol. factor increased
considerably with increasing volume fraction of the polymer, and was
independent of degree of crosslinking.
IT 111-30-8 638-37-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinking by, of poly(vinyl alc.), rheol. in
relation to)
RN 111-30-8 HCPLUS
CN Pentanedral (CA INDEX NAME)



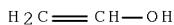
RN 638-37-9 HCPLUS
CN Butanedral (CA INDEX NAME)



IT 9002-89-5 9003-20-7D, saponified
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinking of, rheol. in relation to)
RN 9002-89-5 HCPLUS
CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

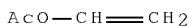
CRN 557-75-5
CMF C2 H4 O



RN 9003-20-7 HCPLUS
 CN Acetic acid ethenyl ester, homopolymer (CA INDEX NAME)

CM 1

CRN 108-05-4
 CMF C4 H6 O2



CC 36-5 (Plastics Manufacture and Processing)
 Section cross-reference(s): 66
 ST rheol polymer network; crosslinking polymer rheol;
 polyvinyl alc crosslinking rheol; vinyl acetate copolymer
 rheol; glutaraldehyde crosslinking polymer rheol;
 succinaldehyde crosslinking polymer rheol
 IT Crosslinking agents
 (dialdehydes, for vinyl alc. polymers)
 IT Rheology
 (of vinyl alc. polymers, crosslinking effect on)
 IT Crosslinking
 (of vinyl alc. polymers, rheol. in relation to)
 IT 111-30-8 638-37-9
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (crosslinking by, of poly(vinyl alc.), rheol. in
 relation to)
 IT 9002-89-5 9003-20-7D, saponified
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (crosslinking of, rheol. in relation to)

=> d ibib abs hitstr hitind 143 1-13

L43 ANSWER 1 OF 13 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2005:395539 HCPLUS Full-text
 DOCUMENT NUMBER: 142:466126
 TITLE: Method for reducing the viscosity of viscous
 fluids
 INVENTOR(S): Fletcher, Philip; Crabtree, Michael John;
 Eagland, Donald; Crowther, Nicholas John
 PATENT ASSIGNEE(S): Advanced Gel Technology Limited, UK
 SOURCE: PCT Int. Appl., 51 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2005040669	A1	20050506	WO 2004-GB4083	

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 GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,
 KR, KZ, LC, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
 MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,
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AU 2004284273 A1 20050506 AU 2004-284273

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CA 2540767 A1 20050506 CA 2004-2540767

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EP 1668288 A1 20060614 EP 2004-768627

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GB 2425777 A 20061108 GB 2006-9217

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BR 2004014985 A 20061121 BR 2004-14985

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MX 2006PA03606 A 20060831 MX 2006-PA3606

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NO 2006001956 A 20060502 NO 2006-1956

200605
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US 20070042911 A1 20070222 US 2006-574232

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13

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PRIORITY APPLN. INFO.: GB 2003-23067 A

200310
02

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GB 2004-4051 A

200402
24

WO 2004-GB4083 W

200409
27

OTHER SOURCE(S): MARPAT 142:466126

AB A viscous fluid, such as heavy crude oil which is too viscous to enable it to be pumped from a flowing phase of a reservoir into and along a pipeline for delivery to a refinery or other storage facility, may be contacted with a formulation to reduce its viscosity. The formulation comprises a polymeric material AA which includes -O- moieties pendent from a polymeric backbone thereof and said material is optionally cross-linked. In one embodiment, the formulation may comprise polyvinyl alc. In an alternative embodiment, the formulation may comprise a cross-linked polymeric material, such as cross-linked polyvinyl alc. After the viscous composition was transported to a desired location, it may be separated from the other components.

IT 9003-20-7DP, Polyvinyl acetate, plain, substituted, 80-95% hydrolyzed, and cross-linked

RL: CPS (Chemical process); MOA (Modifier or additive use); PEP (Physical, engineering or chemical process); POF (Polymer in formulation); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent); USES (Uses)

(d.p. 6809; method for reducing viscosity of viscous fluids such as heavy petroleum)

RN 9003-20-7 HCPLUS

CN Acetic acid ethenyl ester, homopolymer (CA INDEX NAME)

CM 1

CRN 108-05-4

CMF C4 H6 O2



IT 7647-01-0, Hydrochloric acid, uses 7664-38-2, Phosphoric acid, uses

RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)

(method for reducing viscosity of viscous fluids such as heavy petroleum)

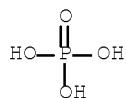
RN 7647-01-0 HCPLUS

CN Hydrochloric acid (CA INDEX NAME)

HCl

RN 7664-38-2 HCPLUS

CN Phosphoric acid (CA INDEX NAME)



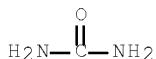
IT 57-13-6D, Urea, reaction products with ester-group- and ether-group- containing vinyl polymers 75-01-4D, Vinyl chloride, reaction products with ester-group- and ether-group- containing vinyl polymers 107-02-8D, Acrolein, reaction products with ester-group- and ether-group- containing vinyl polymers 7790-28-5, Sodium periodate 13401-80-4D, Vinyl sulfate, reaction products with ester-group- and ether-group- containing vinyl polymers

RL: MOA (Modifier or additive use); USES (Uses)

(method for reducing viscosity of viscous fluids such as heavy petroleum)

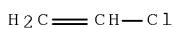
RN 57-13-6 HCPLUS

CN Urea (CA INDEX NAME)



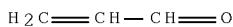
RN 75-01-4 HCPLUS

CN Ethene, chloro- (CA INDEX NAME)



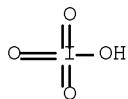
RN 107-02-8 HCPLUS

CN 2-Propenal (CA INDEX NAME)



RN 7790-28-5 HCPLUS

CN Periodic acid (HIO₄), sodium salt (1:1) (CA INDEX NAME)



● Na

RN 13401-80-4 HCPLUS

CN Sulfuric acid, monoethenyl ester (CA INDEX NAME)



IT 9002-89-5D, Polyvinyl alcohol, plain, substituted, and crosslinked with aldehydes

RL: MOA (Modifier or additive use); POF (Polymer in formulation);
 USES (Uses)

(method for reducing viscosity of viscous fluids such as heavy
 petroleum)

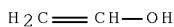
RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



IT 204573-61-5DP, cyclic acetals with polyvinyl alc.

RL: MOA (Modifier or additive use); POF (Polymer in formulation);

RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);

RACT (Reactant or reagent); USES (Uses)

(method for reducing viscosity of viscous fluids such as heavy
 petroleum)

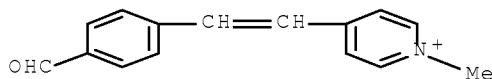
RN 204573-61-5 HCPLUS

CN Pyridinium, 4-[2-(4-formylphenyl)ethenyl]-1-methyl-, methyl sulfate
 (1:1), homopolymer (CA INDEX NAME)

CM 1

CRN 73264-13-8

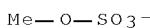
CMF C15 H14 N O



CM 2

CRN 21228-90-0

CMF C H3 O4 S



IT 9002-89-5DP, Polyvinyl alcohol, cyclic acetals with
 (formylphenylethenyl)methylpyridinium methosulfate homopolymer

RL: MOA (Modifier or additive use); RCT (Reactant); SPN (Synthetic
 preparation); PREP (Preparation); RACT (Reactant or reagent)

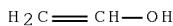
; USES (Uses)

(method for reducing viscosity of viscous fluids such as heavy
 petroleum)

RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

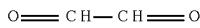
CM 1

CRN 557-75-5
CMF C2 H4 O

IT 107-22-2DP, Glyoxal, cyclic acetal reaction products with hydrolyzed polyvinyl acetate 111-30-8DP, Glutaraldehyde, cyclic acetal reaction products with hydrolyzed polyvinyl acetate 9003-20-7DP, Polyvinyl acetate, hydrolyzed, cyclic acetal reaction products with 4-[2-(4-formylphenyl)ethenyl]-1-methylpyridinium Me sulfate, glutaraldehyde, glyoxal, or other aldehydes 74401-04-0DP,
4-[2-(4-Formylphenyl)ethenyl]-1-methylpyridinium methyl sulfate, cyclic acetal reaction products with hydrolyzed polyvinyl acetate
RL: MOA (Modifier or additive use); SPN (Synthetic preparation);
PREP (Preparation); USES (Uses)
(method for reducing viscosity of viscous fluids such as heavy petroleum)

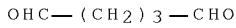
RN 107-22-2 HCPLUS

CN Ethanodial (CA INDEX NAME)



RN 111-30-8 HCPLUS

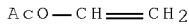
CN Pentanodial (CA INDEX NAME)



RN 9003-20-7 HCPLUS

CN Acetic acid ethenyl ester, homopolymer (CA INDEX NAME)

CM 1

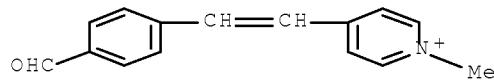
CRN 108-05-4
CMF C4 H6 O2

RN 74401-04-0 HCPLUS

CN Pyridinium, 4-[2-(4-formylphenyl)ethenyl]-1-methyl-, methyl sulfate (1:1) (CA INDEX NAME)

CM 1

CRN 73264-13-8
 CMF C15 H14 N O



CM 2

CRN 21228-90-0
 CMF C H3 O4 S

Me—O—SO₃—

IT 74-85-1D, Ethene, 1,2,3,4-tetrasubstituted with aromatic, heteroarom., or polar, and non-polar groups 107-22-2,
 Glyoxal 111-30-8, Glutaraldehyde 1310-73-2,
 Sodium hydroxide, reactions 74401-04-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (method for reducing viscosity of viscous fluids such as heavy petroleum)

RN 74-85-1 HCAPLUS
 CN Ethene (CA INDEX NAME)

H₂C=CH₂

RN 107-22-2 HCAPLUS
 CN Ethanodial (CA INDEX NAME)

O=CH—CH=O

RN 111-30-8 HCAPLUS
 CN Pentanodial (CA INDEX NAME)

OHC—(CH₂)₃—CHO

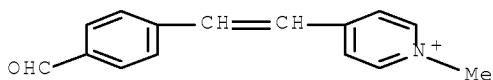
RN 1310-73-2 HCAPLUS
 CN Sodium hydroxide (Na(OH)) (CA INDEX NAME)

Na—OH

RN 74401-04-0 HCPLUS
 CN Pyridinium, 4-[2-(4-formylphenyl)ethenyl]-1-methyl-, methyl sulfate
 (1:1) (CA INDEX NAME)

CM 1

CRN 73264-13-8
 CMF C15 H14 N O



CM 2

CRN 21228-90-0
 CMF C H3 O4 S

Me—O—SO₃[—]

IC ICM F17D001-17
 ICS C10L001-32
 CC 51-2 (Fossil Fuels, Derivatives, and Related Products)
 Section cross-reference(s): 35, 48, 66
 IT Polysaccharides, uses
 RL: MOA (Modifier or additive use); POF (Polymer in formulation);
 USES (Uses)
 (crosslinked hydrogels; method for reducing viscosity
 of viscous fluids such as heavy petroleum)
 IT Condensation reaction
 (crosslinking; method for reducing viscosity of viscous
 fluids such as heavy petroleum)
 IT 9003-20-7DP, Polyvinyl acetate, plain, substituted, 80-95%
 hydrolyzed, and cross-linked
 RL: CPS (Chemical process); MOA (Modifier or additive use); PEP
 (Physical, engineering or chemical process); POF (Polymer in
 formulation); RCT (Reactant); SPN (Synthetic preparation); PREP
 (Preparation); PROC (Process); RACT (Reactant or reagent); USES
 (Uses)
 (d.p. 6809; method for reducing viscosity of viscous fluids such
 as heavy petroleum)
 IT 7647-01-0, Hydrochloric acid, uses 7664-38-2,
 Phosphoric acid, uses
 RL: CAT (Catalyst use); RCT (Reactant); RACT (Reactant or reagent);
 USES (Uses)
 (method for reducing viscosity of viscous fluids such as heavy
 petroleum)
 IT 57-13-6D, Urea, reaction products with ester-group- and
 ether-group- containing vinyl polymers 75-01-4D, Vinyl
 chloride, reaction products with ester-group- and ether-group-
 containing vinyl polymers 107-02-8D, Acrolein, reaction
 products with ester-group- and ether-group- containing vinyl polymers

7790-28-5, Sodium periodate 13401-80-4D, Vinyl sulfate, reaction products with ester-group- and ether-group- containing vinyl polymers
 RL: MOA (Modifier or additive use); USES (Uses)
 (method for reducing viscosity of viscous fluids such as heavy petroleum)

IT 9002-89-5D, Polyvinyl alcohol, plain, substituted, and crosslinked with aldehydes
 RL: MOA (Modifier or additive use); POF (Polymer in formulation); USES (Uses)
 (method for reducing viscosity of viscous fluids such as heavy petroleum)

IT 204573-61-5DP, cyclic acetals with polyvinyl alc.
 RL: MOA (Modifier or additive use); POF (Polymer in formulation); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (method for reducing viscosity of viscous fluids such as heavy petroleum)

IT 9002-89-5DP, Polyvinyl alcohol, cyclic acetals with (formylphenylethenyl)methylpyridinium methosulfate homopolymer
 RL: MOA (Modifier or additive use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (method for reducing viscosity of viscous fluids such as heavy petroleum)

IT 107-22-2DP, Glyoxal, cyclic acetal reaction products with hydrolyzed polyvinyl acetate 111-30-8DP, Glutaraldehyde, cyclic acetal reaction products with hydrolyzed polyvinyl acetate 9003-20-7DP, Polyvinyl acetate, hydrolyzed, cyclic acetal reaction products with 4-[2-(4-formylphenyl)ethenyl]-1-methylpyridinium Me sulfate, glutaraldehyde, glyoxal, or other aldehydes 74401-04-0DP, 4-[2-(4-Formylphenyl)ethenyl]-1-methylpyridinium methyl sulfate, cyclic acetal reaction products with hydrolyzed polyvinyl acetate
 RL: MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (method for reducing viscosity of viscous fluids such as heavy petroleum)

IT 74-85-1D, Ethene, 1,2,3,4-tetrasubstituted with aromatic, heteroarom., or polar, and non-polar groups 107-22-2, Glyoxal 111-30-8, Glutaraldehyde 1310-73-2, Sodium hydroxide, reactions 74401-04-0
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (method for reducing viscosity of viscous fluids such as heavy petroleum)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 2 OF 13 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2005:44046 HCPLUS Full-text
 DOCUMENT NUMBER: 143:404547
 TITLE: Immobilization conditions of lipase from Rhizopus delemar
 AUTHOR(S): Wu, Qianqian; Wu, Ke; Liu, Bin; Yang, Benhong; Zhao, Lijun; Cai, Jingmin; Pan, Renrui
 CORPORATE SOURCE: Department of Biological Science and Technology, Hefei University, Hefei, 230022, Peop. Rep. China
 SOURCE: Gongye Weishengwu (2003), 33(4), 9-13

PUBLISHER: CODEN: GOWEEK; ISSN: 1001-6678
 DOCUMENT TYPE: Quanguo Gongye Weishengwu Xinxi Zhongxin
 LANGUAGE: Journal Chinese

AB The chitosan-immobilized lipase from Rhizopus delemar was prepared with glutaraldehyde as crosslinking agent in the buffer at room temperature for 6 h. Compared with the free enzyme, the temperature to loss a half activity of the immobilized enzyme was increased from 47° to 100°, the optimum temperature and optimum pH were shifted from 40° to 80° and from 6 to 5.5, resp. The Km and K'm of the immobilized enzyme were 50 mg/mL and 56 mg/mL, resp. The immobilized lipase was used in hydrolysis of vegetable oil and synthesis of some esters. The immobilized enzyme activity remained 82.6% after 10 repeated batches of hydrolysis of oil.

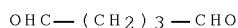
IT 9001-62-1, Lipase
 RL: BCP (Biochemical process); CAT (Catalyst use); BIOL (Biological study); PROC (Process); USES (Uses)
 (immobilization of lipase from Rhizopus delemar)
 RN 9001-62-1 HCPLUS
 CN Lipase, triacylglycerol (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 9012-76-4, Chitosan
 RL: BUU (Biological use, unclassified); BIOL (Biological study);
 USES (Uses)
 (immobilization of lipase from Rhizopus delemar)
 RN 9012-76-4 HCPLUS
 CN Chitosan (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

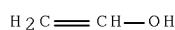
IT 111-30-8, Glutaraldehyde 9002-89-5, Polyvinyl alcohol
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
 (immobilization of lipase from Rhizopus delemar)
 RN 111-30-8 HCPLUS
 CN Pentanodial (CA INDEX NAME)



RN 9002-89-5 HCPLUS
 CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
 CMF C2 H4 O



CC 16-1 (Fermentation and Bioindustrial Chemistry)
 Section cross-reference(s): 7
 IT Crosslinking
 Temperature effects, biological

IT Thermal stability
 (immobilization of lipase from Rhizopus delemar)
 IT 9001-62-1, Lipase
 RL: BCP (Biochemical process); CAT (Catalyst use); BIOL (Biological study); PROC (Process); USES (Uses)
 (immobilization of lipase from Rhizopus delemar)
 IT 9012-76-4, Chitosan
 RL: BUU (Biological use, unclassified); BIOL (Biological study); USES (Uses)
 (immobilization of lipase from Rhizopus delemar)
 IT 111-30-8, Glutaraldehyde 9002-89-5, Polyvinyl alcohol
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
 (immobilization of lipase from Rhizopus delemar)

L43 ANSWER 3 OF 13 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:691055 HCPLUS Full-text
 DOCUMENT NUMBER: 142:204385
 TITLE: Microparticles based on gelatin and poly(vinyl alcohol) with pharmaceutical applications
 AUTHOR(S): Popa, Marcel; Peptu, Catalina; Spataru, Daniela; Verestiuc, Liliana; Perrichaud, Alain
 CORPORATE SOURCE: Faculty of Industrial Chemistry, Department of Macromolecules, Technical University Gh. Asachi, Iasi, Rom.
 SOURCE: Buletinul Stiintific al Universitatii "Politehnica" din Timisoara Romania, Seria Chimie si Mediului (2003), 48(1-2), 195-198
 CODEN: BSIMFG; ISSN: 1224-6018

PUBLISHER: Universitatii "Politehnica" din Timisoara

DOCUMENT TYPE: Journal

LANGUAGE: English

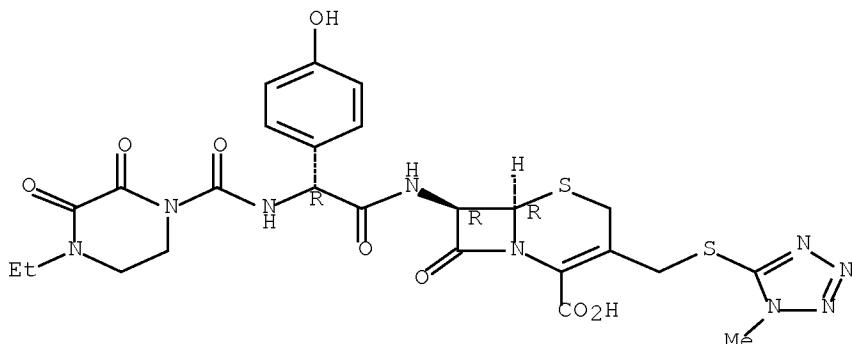
AB This paper presents the synthesis of microparticles based on gelatin and poly(vinyl alc.) using a w/o emulsion method and crosslinking with glutardialdehyde. The microparticles composition and swelling properties were analyzed. Microparticles morphol. was studied by SEM. The kinetic of Cefoperazone sodium release from new polymeric materials and the biocompatibility in cell culture were studied.

IT 62893-20-3, Cefoperazone sodium
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
 (microparticles based on gelatin and poly(vinyl alc.) with pharmaceutical applications)

RN 62893-20-3 HCPLUS

CN 5-Thia-1-azabicyclo[4.2.0]oct-2-ene-2-carboxylic acid, 7-[(2R)-2-[(4-ethyl-2,3-dioxo-1-piperazinyl)carbonyl]amino]-2-(4-hydroxyphenyl)acetyl]amino]-3-[(1-methyl-1H-tetrazol-5-yl)thio]methyl]-8-oxo-, sodium salt (1:1), (6R,7R)- (CA INDEX NAME)

Absolute stereochemistry.



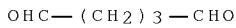
● Na

IT 111-30-8, Glutardialdehyde 9002-89-5, Poly(vinyl alcohol)

RL: RCT (Reactant); RACT (Reactant or reagent)
(microparticles based on gelatin and poly(vinyl alc.) with pharmaceutical applications)

RN 111-30-8 HCPLUS

CN Pentanedral (CA INDEX NAME)



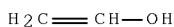
RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



CC 63-5 (Pharmaceuticals)

ST microparticle gelatin poly vinyl alc emulsion glutardialdehyde crosslinking

IT Crosslinking

Dissolution

Swelling, physical

(microparticles based on gelatin and poly(vinyl alc.) with pharmaceutical applications)

IT 62893-20-3, Cefoperazone sodium

RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); THU (Therapeutic use); BIOL (Biological study); PROC (Process); USES (Uses)
(microparticles based on gelatin and poly(vinyl alc.) with pharmaceutical applications)

IT 111-30-8, Glutardialdehyde 9002-89-5, Poly(vinyl alcohol)

RL: RCT (Reactant); RACT (Reactant or reagent)
 (microparticles based on gelatin and poly(vinyl alc.) with pharmaceutical applications)

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 4 OF 13 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2004:513459 HCPLUS Full-text
 DOCUMENT NUMBER: 141:36305
 TITLE: Encapsulated flavors for cigarettes
 INVENTOR(S): Woods, Debra Demeter
 PATENT ASSIGNEE(S): British American Tobacco Investments Limited, UK
 SOURCE: PCT Int. Appl., 34 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
-----	-----	-----	-----	-----
-----	-----	-----	-----	-----
WO 2004052128	A2	20040624	WO 2003-GB5310	200312 05 ---
WO 2004052128	A3	20040923		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2508710	A1	20040624	CA 2003-2508710	200312 05 ---
AU 2003285593	A1	20040630	AU 2003-285593	200312 05 ---
EP 1569529	A2	20050907	EP 2003-778592	200312 05 ---
EP 1569529	B1	20060419		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
BR 2003017130	A	20051025	BR 2003-17130	200312 05 ---

November 14, 2008

10/542,019

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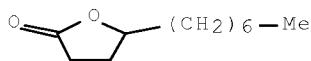
CN 1747663	A	20060315	CN 2003-80109676	200312 05
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CN 100401929	C	20080716		
JP 2006509508	T	20060323	JP 2004-558787	200312 05
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JP 4024249	B2	20071219		
AT 323433	T	20060515	AT 2003-778592	200312 05
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PT 1569529	T	20060731	PT 2003-778592	200312 05
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ES 2257700	T3	20060801	ES 2003-778592	200312 05
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RU 2325824	C2	20080610	RU 2005-121663	200312 05
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MX 2005PA06253	A	20050908	MX 2005-PA6253	200506 10
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HK 1076230	A1	20060728	HK 2005-110652	200511 24
<--				
PRIORITY APPLN. INFO.:		GB 2002-28819	A	200212 11
<--				
		WO 2003-GB5310	W	200312 05
<--				

AB The present invention relates to a smoking article comprising two layers of wrapper material, the outer wrapper having an air permeability of at least 200 C.U. and having a greater permeability than the inner wrapper. Encapsulated flavor is held between the inner and outer wrappers. The encapsulation technique is dependent upon the flavor to be encapsulated and the sidestream to mainstream flavor delivery ratio required. Sidestream smoke may be altered without altering the mainstream smoke, thereby altering room odors.

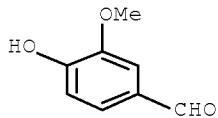
IT 104-67-6, γ -Undecalactone 121-33-5, Vanillin
491-07-6, Isomenthone 1490-04-6, Menthol
3623-51-6, Neomenthol 27779-29-9, Isopinocampheol
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(encapsulated flavors for cigarettes)

RN 104-67-6 HCAPLUS

CN 2(3H)-Furanone, 5-heptyldihydro- (CA INDEX NAME)

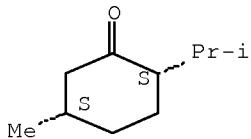


RN 121-33-5 HCAPLUS
 CN Benzaldehyde, 4-hydroxy-3-methoxy- (CA INDEX NAME)

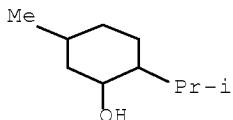


RN 491-07-6 HCAPLUS
 CN Cyclohexanone, 5-methyl-2-(1-methylethyl)-, (2R,5R)-rel- (CA INDEX NAME)

Relative stereochemistry.

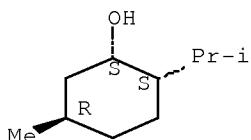


RN 1490-04-6 HCAPLUS
 CN Cyclohexanol, 5-methyl-2-(1-methylethyl)- (CA INDEX NAME)



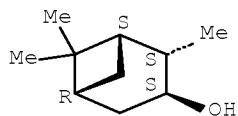
RN 3623-51-6 HCAPLUS
 CN Cyclohexanol, 5-methyl-2-(1-methylethyl)-, (1R,2R,5S)-rel- (CA INDEX NAME)

Relative stereochemistry.

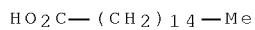


RN 27779-29-9 HCAPLUS
 CN Bicyclo[3.1.1]heptan-3-ol, 2,6,6-trimethyl-, (1R,2R,3R,5S)-rel- (CA INDEX NAME)

Relative stereochemistry.



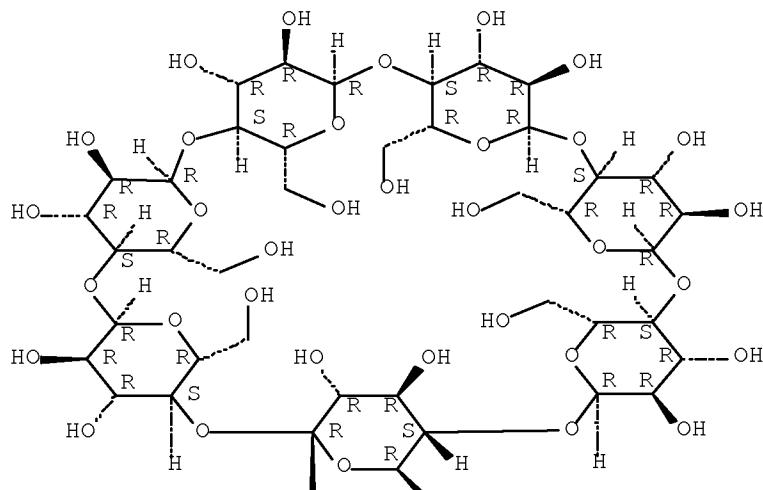
IT 57-10-3, Palmitic acid, biological studies 7585-39-9
, β -Cyclodextrin 9000-11-7, Cmc
RL: BUU (Biological use, unclassified); BIOL (Biological study);
USES (Uses)
(encapsulated flavors for cigarettes)
RN 57-10-3 HCPLUS
CN Hexadecanoic acid (CA INDEX NAME)



RN 7585-39-9 HCPLUS
CN β -Cyclodextrin (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A



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RN 9000-11-7 HCAPLUS

CN Cellulose, carboxymethyl ether (CA INDEX NAME)

CM 1

CRN 9004-34-6

CMF Unspecified

CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 79-14-1

CMF C2 H4 O3



IT 9000-01-5, Gum arabic

RL: BUU (Biological use, unclassified); CPS (Chemical process); PEP (Physical, engineering or chemical process); BIOL (Biological study); PROC (Process); USES (Uses)
(encapsulated flavors for cigarettes)

RN 9000-01-5 HCAPLUS

CN Gum arabic (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 9005-32-7DP, Alginic acid, vanadium or copper salt of

9005-35-0P, Calcium alginate 25067-44-1P

RL: BUU (Biological use, unclassified); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)
(encapsulated flavors for cigarettes)

RN 9005-32-7 HCAPLUS

CN Alginic acid (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9005-35-0 HCAPLUS

CN Alginic acid, calcium salt (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

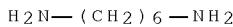
RN 25067-44-1 HCAPLUS

CN Decanedioyl dichloride, polymer with 1,6-hexanediamine (CA INDEX NAME)

CM 1

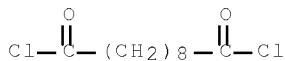
CRN 124-09-4

CMF C6 H16 N2

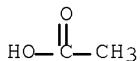


CM 2

CRN 111-19-3
 CMF C10 H16 Cl2 O2



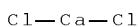
IT 62-54-4, Calcium acetate 9005-38-3, Sodium alginate 10043-52-4, Calcium chloride, processes 15158-11-9, Cu²⁺, processes 22537-23-1, Al³⁺, processes 22541-76-0, V⁴⁺, processes 23713-49-7, Zn²⁺, processes
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
 (encapsulated flavors for cigarettes)
 RN 62-54-4 HCAPLUS
 CN Acetic acid, calcium salt (2:1) (CA INDEX NAME)



●1/2 Ca

RN 9005-38-3 HCAPLUS
 CN Alginic acid, sodium salt (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
 RN 10043-52-4 HCAPLUS
 CN Calcium chloride (CaCl₂) (CA INDEX NAME)



RN 15158-11-9 HCAPLUS
 CN Copper, ion (Cu²⁺) (CA INDEX NAME)



RN 22537-23-1 HCAPLUS
 CN Aluminum, ion (Al³⁺) (CA INDEX NAME)

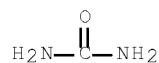
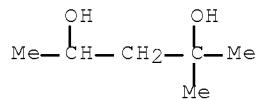
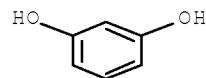


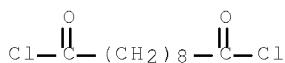
RN 22541-76-0 HCAPLUS

CN Vanadium, ion (V4+) (CA INDEX NAME)

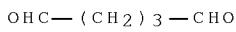
V⁴⁺RN 23713-49-7 HCAPLUS
CN Zinc, ion (Zn2+) (CA INDEX NAME)Zn²⁺

IT 57-13-6, Urea, reactions 107-41-5,
 2-Methyl-2,4-pentanediol 108-46-3, Resorcinol, reactions
 111-19-3, Sebacoyl chloride 111-30-8,
 Glutaraldehyde 7757-82-6, Sodium sulfate, reactions
 9002-89-5, Polyvinyl alcohol 9003-06-9
 10043-01-3, Aluminum sulfate 10043-35-3, Boric
 acid, reactions 27774-13-6, Vanadyl sulfate
 30140-39-7, Hexanediamine
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical
 process); RCT (Reactant); PROC (Process); RACT (Reactant or
 reagent)
 (encapsulated flavors for cigarettes)

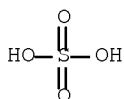
RN 57-13-6 HCAPLUS
CN Urea (CA INDEX NAME)RN 107-41-5 HCAPLUS
CN 2,4-Pentanediol, 2-methyl- (CA INDEX NAME)RN 108-46-3 HCAPLUS
CN 1,3-Benzenediol (CA INDEX NAME)RN 111-19-3 HCAPLUS
CN Decanedioyl dichloride (CA INDEX NAME)



RN 111-30-8 HCAPLUS
 CN Pentanodial (CA INDEX NAME)



RN 7757-82-6 HCAPLUS
 CN Sulfuric acid sodium salt (1:2) (CA INDEX NAME)

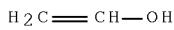


●2 Na

RN 9002-89-5 HCAPLUS
 CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

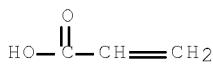
CRN 557-75-5
 CMF C2 H4 O



RN 9003-06-9 HCAPLUS
 CN 2-Propenoic acid, polymer with 2-propenamide (CA INDEX NAME)

CM 1

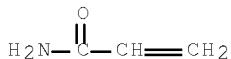
CRN 79-10-7
 CMF C3 H4 O2



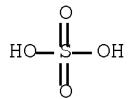
CM 2

CRN 79-06-1

CMF C3 H5 N O

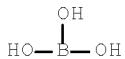


RN 10043-01-3 HCAPLUS
 CN Sulfuric acid, aluminum salt (3:2) (CA INDEX NAME)

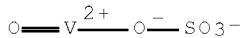


●2/3 Al

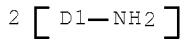
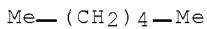
RN 10043-35-3 HCAPLUS
 CN Boric acid (H3BO3) (CA INDEX NAME)



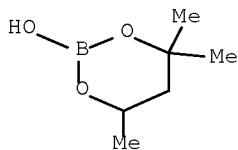
RN 27774-13-6 HCAPLUS
 CN Vanadium, oxo[sulfato(2-)-κO] (CA INDEX NAME)



RN 30140-39-7 HCAPLUS
 CN Hexanediamine (CA INDEX NAME)



IT 78-60-4P
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent) (encapsulated flavors for cigarettes)
 RN 78-60-4 HCAPLUS
 CN 1,3,2-Dioxaborinane, 2-hydroxy-4,4,6-trimethyl- (CA INDEX NAME)



IC ICM A24B015-00
 CC 11-7 (Plant Biochemistry)
 IT Agglomeration
 Coacervation
 Crosslinking
 Hydrogels
Mentha piperita
Mentha spicata
 Mint
 (encapsulated flavors for cigarettes)
 IT 104-67-6, γ -Undecalactone 121-33-5, Vanillin
 491-07-6, Isomenthone 1490-04-6, Menthol
 3623-51-6, Neomenthol 27779-29-9, Isopinocampheol
 RL: BSU (Biological study, unclassified); BIOL (Biological study)
 (encapsulated flavors for cigarettes)
 IT 57-10-3, Palmitic acid, biological studies 7585-39-9
 , β -Cyclodextrin 9000-11-7, Cmc
 RL: BUU (Biological use, unclassified); BIOL (Biological study);
 USES (Uses)
 (encapsulated flavors for cigarettes)
 IT 9000-01-5, Gum arabic
 RL: BUU (Biological use, unclassified); CPS (Chemical process); PEP
 (Physical, engineering or chemical process); BIOL (Biological
 study); PROC (Process); USES (Uses)
 (encapsulated flavors for cigarettes)
 IT 9005-32-7DP, Alginic acid, vanadium or copper salt of
 9005-35-0P, Calcium alginate 25067-44-1P
 RL: BUU (Biological use, unclassified); SPN (Synthetic preparation);
 BIOL (Biological study); PREP (Preparation); USES (Uses)
 (encapsulated flavors for cigarettes)
 IT 62-54-4, Calcium acetate 9005-38-3, Sodium
 alginate 10043-52-4, Calcium chloride, processes
 15158-11-9, Cu²⁺, processes 22537-23-1, Al³⁺,
 processes 22541-76-0, V⁴⁺, processes 23713-49-7,
 Zn²⁺, processes
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical
 process); PROC (Process)
 (encapsulated flavors for cigarettes)
 IT 57-13-6, Urea, reactions 107-41-5,
 2-Methyl-2,4-pentanediol 108-46-3, Resorcinol, reactions
 111-19-3, Sebacoyl chloride 111-30-8,
 Glutaraldehyde 7757-82-6, Sodium sulfate, reactions
 9002-89-5, Polyvinyl alcohol 9003-06-9
 10043-01-3, Aluminum sulfate 10043-35-3, Boric
 acid, reactions 27774-13-6, Vanadyl sulfate
 30140-39-7, Hexanediamine
 RL: CPS (Chemical process); PEP (Physical, engineering or chemical
 process); RCT (Reactant); PROC (Process); RACT (Reactant or
 reagent)
 (encapsulated flavors for cigarettes)

IT 78-60-4P

RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(encapsulated flavors for cigarettes)

L43 ANSWER 5 OF 13 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:232584 HCPLUS Full-text

DOCUMENT NUMBER: 141:424676

TITLE: Temperature-responsive polymer materials
containing poly(vinyl methyl ether) segments

AUTHOR(S): Markova, D.; Christova, D.; Velichkova, R.

CORPORATE SOURCE: Institute of Polymers, BAS, Sofia, 1113, Bulg.

SOURCE: Journal of the University of Chemical Technology
and Metallurgy (2003), 38(2), 325-330

CODEN: JUCTB3; ISSN: 1311-7629

PUBLISHER: University of Chemical Technology and Metallurgy

DOCUMENT TYPE: Journal

LANGUAGE: English

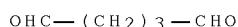
AB Temperature-responsive interpenetrating polymer networks (IPN's) have been obtained via crosslinking of poly(vinyl alc.) (PVA) in the presence of the temperature-sensitive linear polymer poly(vinyl Me ether) (PVME). As a second component com. PVME was used as well as PVME-co-PVA copolymer, synthesized by Williamson etherification reaction of poly(vinyl acetate) with Me iodide. The thermo-responsive properties of the corresponding hydrogels have been evaluated by measuring the equilibrium swelling degree as a function of temperature. It has been shown that considerable and reversible shrinkage of the hydrogels obtained occurs when increasing the temperature from 25 to 80 °C.

IT 111-30-8, Glutaraldehyde

RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(crosslinking agent; temperature-responsive interpenetrating network hydrogels containing poly(vinyl Me ether) segments)

RN 111-30-8 HCPLUS

CN Pentanedral (CA INDEX NAME)



IT 9003-09-2, Poly(vinyl methyl ether)

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
(temperature-responsive interpenetrating network hydrogels containing poly(vinyl Me ether) segments)

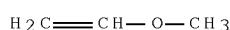
RN 9003-09-2 HCPLUS

CN Ethene, methoxy-, homopolymer (CA INDEX NAME)

CM 1

CRN 107-25-5

CMF C3 H6 O



IT 9002-89-5, Poly(vinyl alcohol)

RL: POF (Polymer in formulation); PRP (Properties); RCT (Reactant);
 RACT (Reactant or reagent); USES (Uses)
 (temperature-responsive interpenetrating network hydrogels containing
 poly(vinyl Me ether) segments)

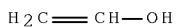
RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



CC 36-7 (Physical Properties of Synthetic High Polymers)

IT Crosslinking

Hydrogels

Interpenetrating polymer networks

Swelling, physical

(temperature-responsive interpenetrating network hydrogels containing
 poly(vinyl Me ether) segments)

IT 111-30-8, Glutaraldehyde

RL: MOA (Modifier or additive use); RCT (Reactant); RACT
 (Reactant or reagent); USES (Uses)

(crosslinking agent; temperature-responsive interpenetrating
 network hydrogels containing poly(vinyl Me ether) segments)

IT 9003-09-2, Poly(vinyl methyl ether)

RL: POF (Polymer in formulation); PRP (Properties); USES (Uses)
 (temperature-responsive interpenetrating network hydrogels containing
 poly(vinyl Me ether) segments)

IT 9002-89-5, Poly(vinyl alcohol)

RL: POF (Polymer in formulation); PRP (Properties); RCT (Reactant);
 RACT (Reactant or reagent); USES (Uses)

(temperature-responsive interpenetrating network hydrogels containing
 poly(vinyl Me ether) segments)

REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE

FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L43 ANSWER 6 OF 13 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:944063 HCPLUS Full-text

DOCUMENT NUMBER: 140:180169

TITLE: Poly(vinyl alcohol) ultrafiltration membranes:
 Synthesis, characterization, the use for enzyme
 immobilization

AUTHOR(S): Djennad, M'hamed; Benachour, Djafer; Berger,
 Hartmut; Schomaecker, Reinhard

CORPORATE SOURCE: Departement de Chimie, Universite de Mostaganem,
 Mostaganem, 27000, Algeria

SOURCE: Engineering in Life Sciences (2003),
 3(11), 446-452

Published in: Chem. Eng. Technol., 26(11)

CODEN: ELSNAE

PUBLISHER: Wiley-VCH Verlag GmbH & Co. KGaA

DOCUMENT TYPE: Journal

LANGUAGE: English

AB An enzymic hydrolysis in a sym. membrane, combining reaction and separation, has been studied. PVA hydrogel was chosen because of its hydrophilicity expecting to minimize membrane fouling and concentration polarization. The membrane pores containing covalently bound enzymes serve as catalyst support. The membrane immobilization of the enzyme and the filtration mode of operating the process were chosen in order to avoid product inhibition of the enzyme. The properties of cross-linked PVA hydrogel were investigated. The conversion of the hydrolysis of p-nitrophenyllaurate with two different loadings of Cr lipase was evaluated. The conversion of the reaction decreased with both increasing substrate flux and initial concentration. The kinetic parameters were obtained. Compared to the free lipase, the K_m of the membrane bonded enzyme was lower and its R_{max} approx. the same.

IT 9001-62-1, Lipase

RL: BCP (Biochemical process); CAT (Catalyst use); RCT (Reactant); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)

(enzyme immobilization in poly(vinyl alc.) ultrafiltration membranes)

RN 9001-62-1 HCPLUS

CN Lipase, triacylglycerol (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 9001-62-1DP, Lipase, covalently linked to PVA hydrogel

RL: BCP (Biochemical process); CAT (Catalyst use); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses)

(enzyme immobilization in poly(vinyl alc.) ultrafiltration membranes)

RN 9001-62-1 HCPLUS

CN Lipase, triacylglycerol (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 9002-89-5, Pva

RL: BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological study); RACT (Reactant or reagent); USES (Uses)

(enzyme immobilization in poly(vinyl alc.) ultrafiltration membranes)

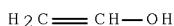
RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



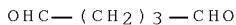
IT 111-30-8, Glutardialdehyde

RL: RCT (Reactant); RACT (Reactant or reagent)

(enzyme immobilization in poly(vinyl alc.) ultrafiltration membranes)

RN 111-30-8 HCPLUS

CN Pentanodial (CA INDEX NAME)



CC 16-1 (Fermentation and Bioindustrial Chemistry)
 Section cross-reference(s): 7

IT 9001-62-1, Lipase
 RL: BCP (Biochemical process); CAT (Catalyst use); RCT (Reactant);
 BIOL (Biological study); PROC (Process); RACT (Reactant or reagent);
 USES (Uses)
 (enzyme immobilization in poly(vinyl alc.) ultrafiltration
 membranes)

IT 9001-62-1DP, Lipase, covalently linked to PVA hydrogel
 RL: BCP (Biochemical process); CAT (Catalyst use); SPN (Synthetic
 preparation); BIOL (Biological study); PREP (Preparation); PROC
 (Process); USES (Uses)
 (enzyme immobilization in poly(vinyl alc.) ultrafiltration
 membranes)

IT 9002-89-5, Pva
 RL: BUU (Biological use, unclassified); RCT (Reactant); BIOL
 (Biological study); RACT (Reactant or reagent); USES
 (Uses)
 (enzyme immobilization in poly(vinyl alc.) ultrafiltration
 membranes)

IT 111-30-8, Glutardialdehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (enzyme immobilization in poly(vinyl alc.) ultrafiltration
 membranes)

REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L43 ANSWER 7 OF 13 HCPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2003:688429 HCPLUS Full-text
 DOCUMENT NUMBER: 139:180834
 TITLE: High water absorbent material useful for
 agriculture and forestry and preparation from
 waste plastics and rubbers
 INVENTOR(S): Zou, Liming; Wang, Yimin; Ni, Jianhua; Tang,
 Gencai; Zhang, Jingping; Pan, Xiangqing
 PATENT ASSIGNEE(S): Donghua Univ., Peop. Rep. China
 SOURCE: Faming Zhanli Shenqing Gongkai Shuomingshu, 8
 pp.
 CODEN: CNXXEV
 DOCUMENT TYPE: Patent
 LANGUAGE: Chinese
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CN 1355262	A	20020626	CN 2000-127610	200011 30
				<--
PRIORITY APPLN. INFO.:			CN 2000-127610	200011 30
				<--

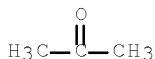
AB The title water absorbents are prepared by reacting pretreated waste plastics and rubbers (A) in the presence of acetone, formaldehyde, glutaraldehyde, copper sulfate, and tannic acid (described as crosslinking agent in the document), hydrolyzing at 20-100° for 1-72 h in 1-30% alkali solution, wherein A is selected from polyethylene, polypropylene, poly(vinyl alc.), starch, PET, polyacrylonitrile or mixture thereof. The only example used waste industrial rubber as starting material and it as described above to give a water absorbent material with water absorbency 50-500 g/g resin.

IT 67-64-1, Acetone, uses 7758-98-7, Copper sulfate, uses

RL: MOA (Modifier or additive use); USES (Uses)
(in preparation of high water absorbents from waste plastics and rubbers)

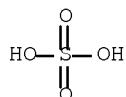
RN 67-64-1 HCPLUS

CN 2-Propanone (CA INDEX NAME)



RN 7758-98-7 HCPLUS

CN Sulfuric acid copper(2+) salt (1:1) (CA INDEX NAME)



● Cu(II)

IT 50-00-0, Formaldehyde, reactions 111-30-8, Glutaraldehyde 9002-88-4, Polyethylene 9002-89-5, Poly(vinyl alcohol) 9003-07-0, Polypropylene 9005-25-8, Starch, reactions 25014-41-9, Polyacrylonitrile 25038-59-9, Polyethylene terephthalate, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(in preparation of high water absorbents from waste plastics and rubbers)

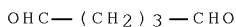
RN 50-00-0 HCPLUS

CN Formaldehyde (CA INDEX NAME)



RN 111-30-8 HCPLUS

CN Pentanodial (CA INDEX NAME)



RN 9002-88-4 HCPLUS
 CN Ethene, homopolymer (CA INDEX NAME)

CM 1

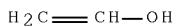
CRN 74-85-1
 CMF C2 H4



RN 9002-89-5 HCPLUS
 CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

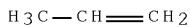
CRN 557-75-5
 CMF C2 H4 O



RN 9003-07-0 HCPLUS
 CN 1-Propene, homopolymer (CA INDEX NAME)

CM 1

CRN 115-07-1
 CMF C3 H6



RN 9005-25-8 HCPLUS
 CN Starch (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
 RN 25014-41-9 HCPLUS
 CN 2-Propenenitrile, homopolymer (CA INDEX NAME)

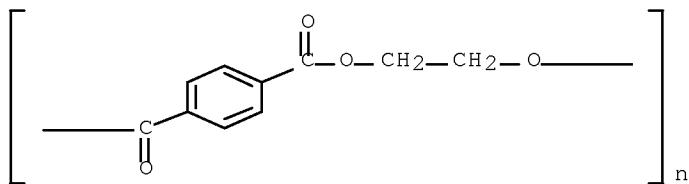
CM 1

CRN 107-13-1
 CMF C3 H3 N



RN 25038-59-9 HCPLUS
 CN Poly(oxy-1,2-ethanediylloxy carbonyl-1,4-phenylene carbonyl) (CA INDEX

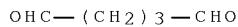
NAME)



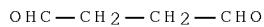
IC ICM C08L101-00
 ICS C08J003-24
 CC 37-3 (Plastics Manufacture and Processing)
 Section cross-reference(s): 60
 IT Crosslinking agents
 Waste plastics and rubbers
 (in preparation of high water absorbents from waste plastics and
 rubbers)
 IT 67-64-1, Acetone, uses 7758-98-7, Copper sulfate,
 uses
 RL: MOA (Modifier or additive use); USES (Uses)
 (in preparation of high water absorbents from waste plastics and
 rubbers)
 IT 50-00-0, Formaldehyde, reactions 111-30-8,
 Glutaraldehyde 9002-88-4, Polyethylene 9002-89-5
 , Poly(vinyl alcohol) 9003-07-0, Polypropylene
 9005-25-8, Starch, reactions 25014-41-9,
 Polyacrylonitrile 25038-59-9, Polyethylene terephthalate,
 reactions
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (in preparation of high water absorbents from waste plastics and
 rubbers)

L43 ANSWER 8 OF 13 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 2003:155972 HCAPLUS Full-text
 DOCUMENT NUMBER: 138:149592
 TITLE: Improved immobilization of penicillin G acylase
 on hydroxyethyl methacrylate terpolymer beads
 and its use for the preparation of
 6-aminopenicillanic acid
 INVENTOR(S): Bahulekar, Raman Vaman; Prabhune, Asmita
 Ashutosh; Pundle, Archana Vishnu; Gadgil, Joyant
 Mohaniraj; Rajan, Chelanattu Khizhakke Madath
 Raman; Ponrathnam, Surendra; Sivaraman,
 Hephzibah
 PATENT ASSIGNEE(S): Council of Scientific and Industrial Research,
 India
 SOURCE: Indian, 13 pp.
 CODEN: INXXAP
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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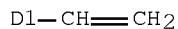
RN 638-37-9 HCAPLUS
 CN Butanedial (CA INDEX NAME)



IT 219609-91-3P, Divinylbenzene-ethylstyrene-2-hydroxyethyl methacrylate copolymer
 RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation); BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses) (improved immobilization of penicillin G acylase on hydroxyethyl methacrylate terpolymer beads and its use for the preparation of 6-aminopenicillanic acid)
 RN 219609-91-3 HCAPLUS
 CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester, polymer with diethenylbenzene and ethenylethylbenzene (CA INDEX NAME)

CM 1

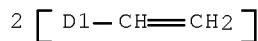
CRN 28106-30-1
 CMF C10 H12
 CCI IDS



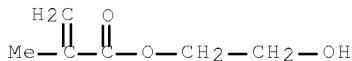
D1-Et

CM 2

CRN 1321-74-0
 CMF C10 H10
 CCI IDS



CM 3

CRN 868-77-9
CMF C6 H10 O3

IT 9014-06-6, Penicillin G acylase
 RL: CAT (Catalyst use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
 (improved immobilization of penicillin G acylase on hydroxyethyl methylacrylate terpolymer beads and its use for the preparation of 6-aminopenicillanic acid)

RN 9014-06-6 HCPLUS

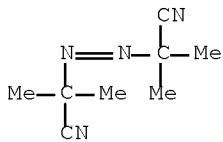
CN Amidase, penicillin (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 78-67-1, Azo bis(isobutyronitrile) 94-36-0,
 Benzoyl peroxide, uses 1338-23-4, Methyl ethyl ketone peroxide
 RL: CAT (Catalyst use); USES (Uses)
 (polymerization in presence of; improved immobilization of penicillin G acylase on hydroxyethyl methylacrylate terpolymer beads and its use for the preparation of 6-aminopenicillanic acid)

RN 78-67-1 HCPLUS

CN Propanenitrile, 2,2'-(1,2-diazenediyl)bis[2-methyl- (CA INDEX NAME)



RN 94-36-0 HCPLUS
 CN Peroxide, dibenzoyl (CA INDEX NAME)



RN 1338-23-4 HCPLUS
 CN 2-Butanone, peroxide (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 71-36-3, 1-Butanol, reactions 108-93-0,
 Cyclohexanol, reactions 110-82-7, Cyclohexane, reactions 111-87-5, 1-Octanol, reactions 112-53-8,
 1-Dodecanol 124-18-5, Decane 9002-39-5,

Polyvinyl alcohol 9002-98-6 9003-01-4,
 Polyacrylic acid 9003-20-7, Poly vinyl acetate
 9003-39-8, Poly vinyl pyrrolidone 25087-26-7, Poly
 (methacrylic acid)
 RL: RGT (Reagent); RACT (Reactant or reagent)
 (polymerization in presence of; improved immobilization of penicillin G
 acylase on hydroxyethyl methylacrylate terpolymer beads and its
 use for the preparation of 6-aminopenicillanic acid)

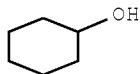
RN 71-36-3 HCPLUS

CN 1-Butanol (CA INDEX NAME)



RN 108-93-0 HCPLUS

CN Cyclohexanol (CA INDEX NAME)



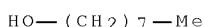
RN 110-82-7 HCPLUS

CN Cyclohexane (CA INDEX NAME)



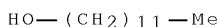
RN 111-87-5 HCPLUS

CN 1-Octanol (CA INDEX NAME)



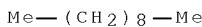
RN 112-53-8 HCPLUS

CN 1-Dodecanol (CA INDEX NAME)



RN 124-18-5 HCPLUS

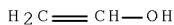
CN Decane (CA INDEX NAME)



RN 9002-89-5 HCPLUS
 CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
 CMF C2 H4 O



RN 9002-98-6 HCPLUS
 CN Aziridine, homopolymer (CA INDEX NAME)

CM 1

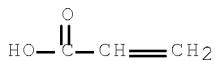
CRN 151-56-4
 CMF C2 H5 N



RN 9003-01-4 HCPLUS
 CN 2-Propenoic acid, homopolymer (CA INDEX NAME)

CM 1

CRN 79-10-7
 CMF C3 H4 O2



RN 9003-20-7 HCPLUS
 CN Acetic acid ethenyl ester, homopolymer (CA INDEX NAME)

CM 1

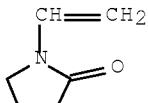
CRN 108-05-4
 CMF C4 H6 O2



RN 9003-39-8 HCPLUS
 CN 2-Pyrrolidinone, 1-ethenyl-, homopolymer (CA INDEX NAME)

CM 1

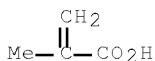
CRN 88-12-0
 CMF C6 H9 N O



RN 25087-26-7 HCPLUS
 CN 2-Propenoic acid, 2-methyl-, homopolymer (CA INDEX NAME)

CM 1

CRN 79-41-4
 CMF C4 H6 O2



IC ICM C12N009-84
 ICS C12N011-00; C12N011-16
 CC 7-7 (Enzymes)
 Section cross-reference(s): 16
 IT Crosslinking
 Immobilization, molecular or cellular
 (improved immobilization of penicillin G acylase on hydroxyethyl methylacrylate terpolymer beads and its use for the preparation of 6-aminopenicillanic acid)
 IT 551-16-6P, 6-Aminopenicillanic acid
 RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation);
 BIOL (Biological study); PREP (Preparation)
 (crosslinking agent; improved immobilization of
 penicillin G acylase on hydroxyethyl methylacrylate terpolymer
 beads and its use for the preparation of 6-aminopenicillanic acid)
 IT 107-22-2, Glyoxal 111-30-8, Glutaraldehyde
 638-37-9, Succinaldehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (crosslinking agent; improved immobilization of
 penicillin G acylase on hydroxyethyl methylacrylate terpolymer
 beads and its use for the preparation of 6-aminopenicillanic acid)
 IT 219609-91-3P, Divinylbenzene-ethylstyrene-2-hydroxyethyl
 methacrylate copolymer
 RL: BMF (Bioindustrial manufacture); BPN (Biosynthetic preparation);
 BUU (Biological use, unclassified); RCT (Reactant); BIOL (Biological
 study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (improved immobilization of penicillin G acylase on hydroxyethyl
 methylacrylate terpolymer beads and its use for the preparation of
 6-aminopenicillanic acid)
 IT 9014-06-6, Penicillin G acylase
 RL: CAT (Catalyst use); PEP (Physical, engineering or chemical
 process); PYP (Physical process); PROC (Process); USES (Uses)
 (improved immobilization of penicillin G acylase on hydroxyethyl

methylacrylate terpolymer beads and its use for the preparation of 6-aminopenicillanic acid)

IT 78-67-1, Azo bis(isobutyronitrile) 94-36-0,
Benzoyl peroxide, uses 1338-23-4, Methyl ethyl ketone peroxide
RL: CAT (Catalyst use); USES (Uses)
(polymerization in presence of; improved immobilization of penicillin G acylase on hydroxyethyl methylacrylate terpolymer beads and its use for the preparation of 6-aminopenicillanic acid)

IT 71-06-3, 1-Butanol, reactions 108-93-0,
Cyclohexanol, reactions 110-82-7, Cyclohexane, reactions 111-87-5, 1-Octanol, reactions 112-53-8,
1-Dodecanol 124-18-5, Decane 9002-89-6,
Polyvinyl alcohol 9002-98-6 9003-01-4,
Polyacrylic acid 9003-20-7, Poly vinyl acetate 9003-39-8, Poly vinyl pyrrolidone 25087-26-7, Poly (methacrylic acid)
RL: RGT (Reagent); RACT (Reactant or reagent)
(polymerization in presence of; improved immobilization of penicillin G acylase on hydroxyethyl methylacrylate terpolymer beads and its use for the preparation of 6-aminopenicillanic acid)

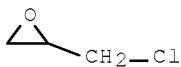
L43 ANSWER 9 OF 13 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:742175 HCPLUS Full-text
DOCUMENT NUMBER: 138:71947
TITLE: Preparation of PVA/chitosan lipase membrane reactor and its application in synthesis of monoglyceride
AUTHOR(S): Tan, Tianwei; Wang, Fang; Zhang, Hua
CORPORATE SOURCE: Department of Biochemical Engineering, Beijing University of Chemical Technology, Beijing, 100029, Peop. Rep. China
SOURCE: Journal of Molecular Catalysis B: Enzymatic (2002), 18(4-6), 325-331
CODEN: JMCEF8; ISSN: 1381-1177
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English

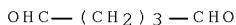
AB Polyvinyl alc. (PVA)/chitosan (CS) composite lipase membrane was prepared in this paper, which was used for enzymic processing of fats and oils. The parameters, such as concentration of lipase, pH, and crosslinking agent as well as metal ions, which influence the immobilization of lipase in membrane, were optimized. The immobilized activity of lipase was 2.64 IU/cm² with recovery of 24%. The membrane reactor was used in a two-phase system reaction to synthesize monoglyceride (MG) by hydrolysis of palm oil, which was reused for at least nine batches with yield of 32-50%.

IT 106-89-8, Epichlorohydrin, reactions 111-30-8,
Glutaraldehyde
RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinker; preparation of PVA/chitosan lipase membrane reactor and its application in synthesis of monoglyceride)

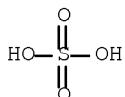
RN 106-89-8 HCPLUS
CN Oxirane, 2-(chloromethyl)- (CA INDEX NAME)



RN 111-30-8 HCPLUS
 CN Pentanedial (CA INDEX NAME)

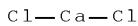


IT 7487-88-9, Magnesium sulfate, processes 10043-52-4
 , Calcium chloride, processes
 RL: BCP (Biochemical process); BIOL (Biological study); PROC
 (Process)
 (preparation of PVA/chitosan lipase membrane reactor and its
 application in synthesis of monoglyceride)
 RN 7487-88-9 HCPLUS
 CN Sulfuric acid magnesium salt (1:1) (CA INDEX NAME)



● Mg

RN 10043-52-4 HCPLUS
 CN Calcium chloride (CaCl₂) (CA INDEX NAME)

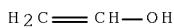


IT 9001-62-1 Lipase, immobilized in PVA or PVA chitosan
 copolymer membrane
 RL: BCP (Biochemical process); CAT (Catalyst use); SPN (Synthetic
 preparation); BIOL (Biological study); PREP (Preparation); PROC
 (Process); USES (Uses)
 (preparation of PVA/chitosan lipase membrane reactor and its
 application in synthesis of monoglyceride)
 RN 9001-62-1 HCPLUS
 CN Lipase, triacylglycerol (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***
 IT 9002-89-5, Polyvinylalcohol 9012-76-4, Chitosan
 287970-25-6
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (preparation of PVA/chitosan lipase membrane reactor and its
 application in synthesis of monoglyceride)
 RN 9002-89-5 HCPLUS
 CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5
 CMF C₂ H₄ O



RN 9012-76-4 HCPLUS
 CN Chitosan (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 287970-25-6 HCPLUS
 CN Lipase, triacylglycerol 1,3-specific (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IT 162856-26-0P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (preparation of PVA/chitosan lipase membrane reactor and its
 application in synthesis of monoglyceride)

RN 162856-26-0 HCPLUS
 CN Chitosan, polymer with ethenol, graft (CA INDEX NAME)

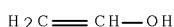
CM 1

CRN 9012-76-4
 CMF Unspecified
 CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 557-75-5
 CMF C2 H4 O



CC 16-2 (Fermentation and Bioindustrial Chemistry)

Section cross-reference(s): 7

IT 106-89-8, Epichlorohydrin, reactions 111-30-8,
 Glutaraldehyde

RL: RCT (Reactant); RACT (Reactant or reagent)
 (crosslinker; preparation of PVA/chitosan lipase membrane
 reactor and its application in synthesis of monoglyceride)

IT 7487-88-9, Magnesium sulfate, processes 10043-52-4
 , Calcium chloride, processes

RL: BCP (Biochemical process); BIOL (Biological study); PROC
 (Process)
 (preparation of PVA/chitosan lipase membrane reactor and its
 application in synthesis of monoglyceride)

IT 9001-62-1DP, Lipase, immobilized in PVA or PVA chitosan
 copolymer membrane

RL: BCP (Biochemical process); CAT (Catalyst use); SPN (Synthetic
 preparation); BIOL (Biological study); PREP (Preparation); PROC
 (Process); USES (Uses)
 (preparation of PVA/chitosan lipase membrane reactor and its
 application in synthesis of monoglyceride)

IT 9002-89-5, Polyvinylalcohol 9012-76-4, Chitosan
287970-25-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of PVA/chitosan lipase membrane reactor and its
application in synthesis of monoglyceride)

IT 162856-26-0P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(preparation of PVA/chitosan lipase membrane reactor and its
application in synthesis of monoglyceride)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

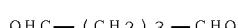
L43 ANSWER 10 OF 13 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2001:756844 HCAPLUS Full-text
DOCUMENT NUMBER: 137:68113
TITLE: Preparation of low density lipoprotein
adsorbents and their properties of adsorption
Guo, Xianquan; Sun, Yue; Chen, You'an; Zhao,
Fenzhi; Wang, Jing; He, Binglin
CORPORATE SOURCE: Institute of Polymer Chemistry, Nankai
University, Tianjin, 300071, Peop. Rep. China
SOURCE: Zhongguo Shengwu Yixue Gongcheng Xuebao (2001), 20(4), 317-320
CODEN: ZSYXEI; ISSN: 0258-8021
PUBLISHER: Zhongguo Yixue Kexueyuan
DOCUMENT TYPE: Journal
LANGUAGE: Chinese

AB Three kinds of LDL adsorbent were synthesized by using polyvinyl alc. and
alginic acid as monomers, glutaric dialdehyde as crosslinking agent and Span-
80 as dispersing agent, anti-phase suspension polymerizing in mineral oil,
treating with HCl and NaOH solution, washing and drying to obtain the
products. Their adsorption properties were studied by adding the adsorbents
into the blood serum of hyperlipidemia victim, shaking at 37° for 2 h, and
measuring the concns. of total cholesterol, HDL and LDL before and after the
adsorbing process resp. The results showed that the adsorbents had better
selective for LDL (the highest adsorption rate = 54.9%), but no adsorption for
HDL.

IT 111-30-8, Glutaric dialdehyde 9002-89-5, Polyvinyl
alcohol
RL: PEP (Physical, engineering or chemical process); PYP (Physical
process); RCT (Reactant); THU (Therapeutic use); BIOL (Biological
study); PROC (Process); RACT (Reactant or reagent); USES
(Uses)
(preparation of low d. lipoprotein adsorbents and their properties of
adsorption)

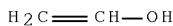
RN 111-30-8 HCAPLUS

CN Pentanedral (CA INDEX NAME)



RN 9002-89-5 HCAPLUS
CN Ethenol, homopolymer (CA INDEX NAME)

CRN 557-75-5
 CMF C2 H4 O



IT 9005-38-3DP, poly(vinyl glutaral) derivs.
 RL: PEP (Physical, engineering or chemical process); PYP (Physical process); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses) (preparation of low d. lipoprotein adsorbents and their properties of adsorption)

RN 9005-38-3 HCPLUS

CN Alginic acid, sodium salt (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CC 63-8 (Pharmaceuticals)

IT 111-30-8, Glutaric dialdehyde 9002-89-5, Polyvinyl alcohol

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses) (preparation of low d. lipoprotein adsorbents and their properties of adsorption)

IT 9005-38-3DP, poly(vinyl glutaral) derivs.

RL: PEP (Physical, engineering or chemical process); PYP (Physical process); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); PROC (Process); USES (Uses) (preparation of low d. lipoprotein adsorbents and their properties of adsorption)

L43 ANSWER 11 OF 13 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:625073 HCPLUS Full-text

DOCUMENT NUMBER: 136:200933

TITLE: Preparation of PVA-alginate-Ca blends

AUTHOR(S): Li, Qinhua; Zhang, Wenyu

CORPORATE SOURCE: Institute of Biomedical Engineering, Jinan University, Canton, 510632, Peop. Rep. China

SOURCE: Jinan Daxue Xuebao, Ziran Kexue Yu Yixueban (2001), 22(3), 81-85

CODEN: JDXUET; ISSN: 1000-9965

PUBLISHER: Jinan Daxue Xuebao Bianjibu

DOCUMENT TYPE: Journal

LANGUAGE: Chinese

AB The PVA-alginate-Ca with network structure was prepared by crosslinking PVA solution with glutaraldehyde, mixing with Na alginate at a ratio of 4:1 for 0.5 h, drying at 35°, and treating with 2% CaCl₂ solution. The morphol. of PVA-alginate-Ca was network structure by SEM. PVA-alginate-Ca modulus curve was observed by dynamic viscoelastometer. After crosslinking, T_g PVA and T_g alginate shifted closer to each other. The tensile strength of the polymer was 20 MPa, water content >775, and elasticity >3,505. PVA and alginate-Ca were blended at mol. level, and CaCl₂ as a crosslinking agent may increase the mutual solubility between alginate-Na and PVA.

IT 111-30-8, Glutaraldehyde 9002-89-5, Polyvinyl

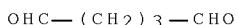
alcohol 9005-38-3, Sodium alginate 10043-52-4, Calcium chloride, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of PVA-alginate-Ca blends)

RN 111-30-8 HCPLUS

CN Pentanediol (CA INDEX NAME)



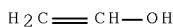
RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



RN 9005-38-3 HCPLUS

CN Alginic acid, sodium salt (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 10043-52-4 HCPLUS

CN Calcium chloride (CaCl₂) (CA INDEX NAME)

CC 37-6 (Plastics Manufacture and Processing)

IT 111-30-8, Glutaraldehyde 9002-89-5, Polyvinyl alcohol 9005-38-3, Sodium alginate 10043-52-4, Calcium chloride, reactions

RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of PVA-alginate-Ca blends)

L43 ANSWER 12 OF 13 HCPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:107898 HCPLUS Full-text

DOCUMENT NUMBER: 134:163832

TITLE: Polymerization of monomers having ethylenic double bonds while inhibiting scale formation

INVENTOR(S): Shimizu, Toshihide; Watanabe, Mikio; Fujimoto, Tatsuya; Noguhi, Genji

PATENT ASSIGNEE(S): Shin-Etsu Chemical Industry Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 16 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2001040006	A	20010213	JP 1999-215557	

199907
29

PRIORITY APPLN. INFO.: JP 1999-215557

199907
29

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AB The polymerization reactors have inner-wall coatings which are prepared by applying coatings containing OH-containing macromols. and their crosslinkers while using water vapor as carriers. Thus, a 90:10 (%) water/MeOH solution containing 100:20 (%) alkali lignin/glyoxal mixture was applied on the inner wall of a polymerization reactor while introducing water vapor as coating carriers to give a thin coating which prevented scales from adhering to the reactor walls effectively in 50-batch polymns. of vinyl chloride monomers. The resulted polymers had little fisheyes.

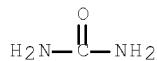
IT 50-00-0, Formaldehyde, uses 57-13-6, Urea, uses 77-77-0, Divinylsulfone 100-52-7, Benzaldehyde, uses 104-55-2, Cinnamaldehyde 106-89-8, Epichlorohydrin, uses 107-02-8, Acrolein, uses 107-22-2, Glyoxal 108-78-1, Melamine, uses 111-30-8, Glutaraldehyde 123-38-6, Propionaldehyde, uses 538-07-8, N-Ethylbis(2-chloroethyl)amine 623-27-8D, Terephthalaldehyde, methylated 626-19-7, Isophthalaldehyde 1072-21-5, Adipic dialdehyde 2580-77-0, Bis(β-hydroxyethyl)sulfone 3675-13-6, Maleic dialdehyde 10043-35-3, Boric acid, uses RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant or reagent); USES (Uses) (crosslinkers; polymerization of ethylenic monomers in reactors with scale-preventive coatings prepared by water-vapor-carried spray coating)

RN 50-00-0 HCAPLUS

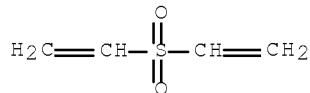
CN Formaldehyde (CA INDEX NAME)



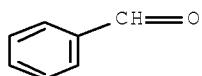
RN 57-13-6 HCAPLUS
CN Urea (CA INDEX NAME)



RN 77-77-0 HCAPLUS
CN Ethene, 1,1'-sulfonylbis- (CA INDEX NAME)



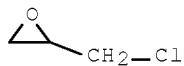
RN 100-52-7 HCAPLUS
 CN Benzaldehyde (CA INDEX NAME)



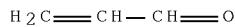
RN 104-55-2 HCAPLUS
 CN 2-Propenal, 3-phenyl- (CA INDEX NAME)



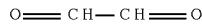
RN 106-89-8 HCAPLUS
 CN Oxirane, 2-(chloromethyl)- (CA INDEX NAME)



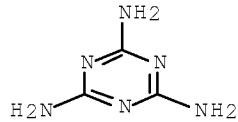
RN 107-02-8 HCAPLUS
 CN 2-Propenal (CA INDEX NAME)



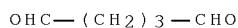
RN 107-22-2 HCAPLUS
 CN Ethanedial (CA INDEX NAME)



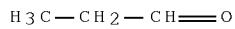
RN 108-78-1 HCAPLUS
 CN 1,3,5-Triazine-2,4,6-triamine (CA INDEX NAME)



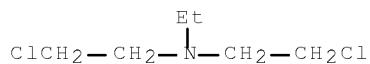
RN 111-30-8 HCAPLUS
 CN Pentanedial (CA INDEX NAME)



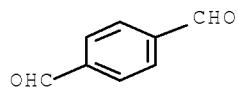
RN 123-38-6 HCAPLUS
 CN Propanal (CA INDEX NAME)



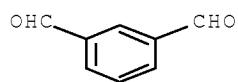
RN 538-07-8 HCAPLUS
 CN Ethanamine, 2-chloro-N-(2-chloroethyl)-N-ethyl- (CA INDEX NAME)



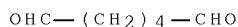
RN 623-27-8 HCAPLUS
 CN 1,4-Benzenedicarboxaldehyde (CA INDEX NAME)



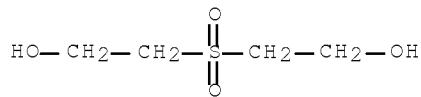
RN 626-19-7 HCAPLUS
 CN 1,3-Benzenedicarboxaldehyde (CA INDEX NAME)



RN 1072-21-5 HCAPLUS
 CN Hexanodial (CA INDEX NAME)

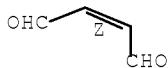


RN 2580-77-0 HCAPLUS
 CN Ethanol, 2,2'-sulfonylbis- (CA INDEX NAME)

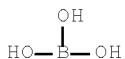


RN 3675-13-6 HCPLUS
 CN 2-Butenedial, (2Z)- (CA INDEX NAME)

Double bond geometry as shown.



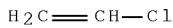
RN 10043-35-3 HCPLUS
 CN Boric acid (H3BO3) (CA INDEX NAME)



IT 9002-86-2P, Vinyl chloride homopolymer
 RL: IMF (Industrial manufacture); PRP (Properties); PREP (Preparation)
 (polymerization of ethylenic monomers in reactors with scale-preventive coatings prepared by water-vapor-carried spray coating)
 RN 9002-86-2 HCPLUS
 CN Ethene, chloro-, homopolymer (CA INDEX NAME)

CM 1

CRN 75-01-4
 CMF C2 H3 Cl



IT 8062-15-5, Ligninsulfonic acid 8068-03-9, Alcohol lignin 8068-05-1, Alkali lignin 8068-10-8, Mercaptolignin 9000-69-5, Pectinic acid 9002-13-0, Agar 9002-89-5D, Poly(vinyl alcohol), partial hydrolyzate 9004-53-9, Dextrin 9004-57-3, Ethyl cellulose 9004-70-0, Nitro cellulose 9005-25-8D, Starch, oxidized, properties 9005-82-7, Amylose 9007-28-7, Chondroitin sulfuric acid 9014-63-5, Xylan 9036-88-8, Mannan 9037-55-2, Galactan 9045-28-7, Acetyl starch 9057-06-1, Carboxymethyl starch 37225-41-5, Phenol lignin 39402-48-7, Acid lignin 222540-65-0, Hepalin
 RL: PRP (Properties); RCT (Reactant); TEM (Technical or engineered material use); RACT (Reactant or reagent); USES (Uses)
 (scale-inhibitive coating; polymerization of ethylenic monomers in reactors with scale-preventive coatings prepared by water-vapor-carried spray coating)
 RN 8062-15-5 HCPLUS
 CN Lignosulfonic acid (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 8068-03-9 HCPLUS

CN Lignin, organosolv (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 8068-05-1 HCPLUS

CN Lignin, alkali (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 8068-10-8 HCPLUS

CN Thiolignin (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9000-69-5 HCPLUS

CN Pectin (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9002-18-0 HCPLUS

CN Agar (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

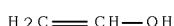
RN 9002-89-5 HCPLUS

CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

CRN 557-75-5

CMF C2 H4 O



RN 9004-53-9 HCPLUS

CN Dextrin (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9004-57-3 HCPLUS

CN Cellulose, ethyl ether (CA INDEX NAME)

CM 1

CRN 9004-34-6

CMF Unspecified

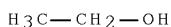
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 64-17-5

CMF C2 H6 O



November 14, 2008

10/542,019

70

RN 9004-70-0 HCPLUS

CN Cellulose, nitrate (CA INDEX NAME)

CM 1

CRN 9004-34-6

CMF Unspecified

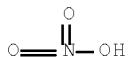
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7697-37-2

CMF H N O3



RN 9005-25-8 HCPLUS

CN Starch (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9005-82-7 HCPLUS

CN Amylose (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9007-28-7 HCPLUS

CN Chondroitin, hydrogen sulfate (CA INDEX NAME)

CM 1

CRN 9007-27-6

CMF Unspecified

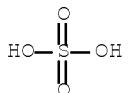
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 7664-93-9

CMF H2 O4 S



RN 9014-63-5 HCPLUS

CN Xylan (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9036-88-8 HCPLUS

CN D-Mannan (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9037-55-2 HCPLUS

CN D-Galactan (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9045-28-7 HCPLUS

CN Starch, acetate (CA INDEX NAME)

CM 1

CRN 9005-25-8

CMF Unspecified

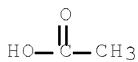
CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 64-19-7

CMF C2 H4 O2



RN 9057-06-1 HCPLUS

CN Starch, carboxymethyl ether (CA INDEX NAME)

CM 1

CRN 9005-25-8

CMF Unspecified

CCI PMS, MAN

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

CM 2

CRN 79-14-1

CMF C2 H4 O3



RN 37225-41-5 HCPLUS

CN Lignin, phenol (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 39402-48-7 HCPLUS

CN Lignin, acidolysis (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 222540-65-0 HCPLUS

CN Hepalin (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IC ICM C08F002-00
IC S C08F014-06

CC 37-3 (Plastics Manufacture and Processing)
Section cross-reference(s): 42

ST vapor carried polymer scale inhibitor coating; vinyl chloride polymn
reactor scale prevention; hydroxyl contg polymer crosslinked
scale inhibitor; alkalilignin glyoxal crosslinked scale
inhibiting coating

IT Phenolic resins, uses
RL: MOA (Modifier or additive use); RCT (Reactant); RACT (Reactant
or reagent); USES (Uses)
(crosslinkers; polymerization of ethylenic monomers in
reactors with scale-preventive coatings prepared by
water-vapor-carried spray coating)

IT Crosslinking agents
Crosslinking catalysts
(polymerization of ethylenic monomers in reactors with scale-preventive
coatings prepared by water-vapor-carried spray coating)

IT 50-00-0, Formaldehyde, uses 57-13-6, Urea, uses
77-77-0, Divinylsulfone 100-52-7, Benzaldehyde,
uses 104-55-2, Cinnamaldehyde 106-89-8,
Epichlorohydrin, uses 107-02-8, Acrolein, uses
107-22-2, Glyoxal 108-78-1, Melamine, uses
111-30-8, Glutaraldehyde 123-38-6,
Propionaldehyde, uses 536-07-8,
N-Ethylbis(2-chloroethyl)amine 623-27-8D,
Terephthalaldehyde, methylated 626-19-7, Isophthalaldehyde
1072-21-5, Adipic dialdehyde 2580-77-0,
Bis(β-hydroxyethyl)sulfone 3675-13-6, Maleic
dialdehyde 10043-35-3, Boric acid, uses
RL: MOA (Modifier or additive use); RCT (Reactant); RACT
(Reactant or reagent); USES (Uses)
(crosslinkers; polymerization of ethylenic monomers in
reactors with scale-preventive coatings prepared by
water-vapor-carried spray coating)

IT 9002-86-2P, Vinyl chloride homopolymer
RL: IMF (Industrial manufacture); PRP (Properties); PREP
(Preparation)
(polymerization of ethylenic monomers in reactors with scale-preventive
coatings prepared by water-vapor-carried spray coating)

IT 8062-15-5, Ligninsulfonic acid 8068-03-9, Alcohol
lignin 8068-05-1, Alkali lignin 8068-10-8,
Mercaptolignin 9000-69-5, Pectinic acid 9002-18-0
, Agar 9002-89-5D, Poly(vinyl alcohol), partial
hydrolyzate 9004-53-9, Dextrin 9004-57-3, Ethyl
cellulose 9004-70-0, Nitro cellulose 9005-25-8D,
Starch, oxidized, properties 9005-82-7, Amylose
9007-28-7, Chondroitin sulfuric acid 9014-63-5,
Xylan 9036-88-8, Mannan 9037-55-2, Galactan
9045-28-7, Acetyl starch 9057-06-1, Carboxymethyl
starch 37225-41-5, Phenol lignin 39402-48-7,
Acid lignin 222540-65-0, Hepalin
RL: PRP (Properties); RCT (Reactant); TEM (Technical or engineered
material use); RACT (Reactant or reagent); USES (Uses)
(scale-inhibitive coating; polymerization of ethylenic monomers in
reactors with scale-preventive coatings prepared by
water-vapor-carried spray coating)

L43 ANSWER 13 OF 13 HCAPLUS COPYRIGHT 2008 ACS on STN
 ACCESSION NUMBER: 1998:66114 HCAPLUS Full-text
 DOCUMENT NUMBER: 128:145407
 ORIGINAL REFERENCE NO.: 128:28520h, 28521a
 TITLE: Method for preparing bioactive polymers
 INVENTOR(S): Margel, Shlomo; Burdygin, Irene
 PATENT ASSIGNEE(S): Bar Ilan University, Israel; Margel, Shlomo;
 Burdygin, Irene
 SOURCE: PCT Int. Appl., 68 pp.
 CODEN: PIXXD2
 DOCUMENT TYPE: Patent
 LANGUAGE: English
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 9802189	A2	19980122	WO 1997-IL239	199707 14
<--				
WO 9802189	A3	19980507		
W: AL, AM, AT, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, CZ, DE, DE, DK, DK, EE, EE, ES, FI, FI, GB, GE, GH, HU, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, KE, LS, MW, SD, SZ, UG, ZW, AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, ML, MR, NE, SN, TD, TG				
CA 2260324	A1	19980122	CA 1997-2260324	199707 14
<--				
AU 9733574	A	19980209	AU 1997-33574	199707 14
<--				
EP 938340	A2	19990901	EP 1997-929483	199707 14
<--				
R: AT, BE, DE, ES, FR, GB, IT, NL, SE				
PRIORITY APPLN. INFO.:		IL 1996-118848	A	199607 14
<--				
WO 1997-IL239				
W 199707 14				
<--				

AB A method to prepare a bioactive polymer by covalently binding at least one amino group containing ligand to at least one polymer containing a plurality of free hydroxyl groups, said method comprising the following steps: (i) reacting the at least one polymer with an appropriate activating agent; (ii) reacting the resultant activated polymer in aqueous solution with desired amino group containing ligands; (iii) blocking by reaction or removing by

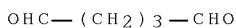
hydrolysis residual polymer bound-ligand unreacted, activating groups; and wherein the said activating agent and/or leaving byproducts formed by step (i) and/or by step (ii) and/or by step (iii), are swelling agents of the support polymer. The immobilized polymers are used, e.g., in wound dressings. An example is given for immobilization of proteins to cellulose via carbonyldiimidazole and other activating reagents.

IT 111-30-8, Glutaraldehyde

RL: RCT (Reactant); RACT (Reactant or reagent)
(crosslinking agent; preparation of bioactive polymers by covalent binding of amino group-containing ligands)

RN 111-30-8 HCPLUS

CN Pentanedial (CA INDEX NAME)



IT 9004-34-6, Cellulose, biological studies

RL: PEP (Physical, engineering or chemical process); RCT (Reactant); THU (Therapeutic use); BIOL (Biological study); PROC (Process); RACT (Reactant or reagent); USES (Uses)
(preparation of bioactive polymers by covalent binding of amino group-containing ligands)

RN 9004-34-6 HCPLUS

CN Cellulose (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

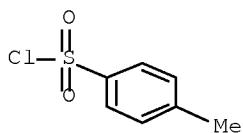
IT 98-59-9, Tosyl chloride 506-68-3, Cyanogen bromide

530-62-1 1648-99-3, Tresyl chloride
7631-86-9D, Silica, hydroxy-terminated, reactions
7693-46-1, 4-Nitrophenyl chloroformate 9001-12-1,
Collagenase 9001-63-2, Lysozyme 9002-07-7,
Trypsin 9002-88-4D, Polyethylene, hydroxy-terminated
9002-89-5, Polyvinyl alcohol 9041-36-5, Sephadex
G-200 41864-22-6, 1H-1,2,4-Triazole, 1,1'-carbonylbis-

RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of bioactive polymers by covalent binding of amino group-containing ligands)

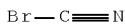
RN 98-59-9 HCPLUS

CN Benzenesulfonyl chloride, 4-methyl- (CA INDEX NAME)



RN 506-68-3 HCPLUS

CN Cyanogen bromide ((CN)Br) (CA INDEX NAME)



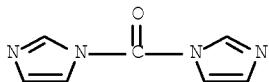
November 14, 2008

10/542,019

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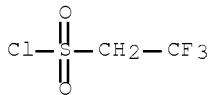
RN 530-62-1 HCAPLUS

CN Methanone, di-1H-imidazol-1-yl- (CA INDEX NAME)



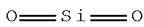
RN 1648-99-3 HCAPLUS

CN Ethanesulfonyl chloride, 2,2,2-trifluoro- (CA INDEX NAME)



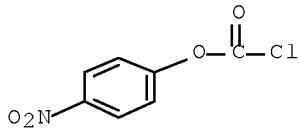
RN 7631-86-9 HCAPLUS

CN Silica (CA INDEX NAME)



RN 7693-46-1 HCAPLUS

CN Carbonochloridic acid, 4-nitrophenyl ester (CA INDEX NAME)



RN 9001-12-1 HCAPLUS

CN Collagenase (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9001-63-2 HCAPLUS

CN Lysozyme (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 9002-07-7 HCAPLUS

CN Trypsin (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

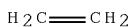
RN 9002-88-4 HCAPLUS

CN Ethene, homopolymer (CA INDEX NAME)

CM 1

CRN 74-85-1

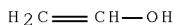
CMF C2 H4



RN 9002-89-5 HCPLUS
 CN Ethenol, homopolymer (CA INDEX NAME)

CM 1

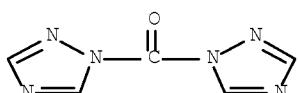
CRN 557-75-5
 CMF C2 H4 O



RN 9041-36-5 HCPLUS
 CN Sephadex G 200 (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 41864-22-6 HCPLUS
 CN 1H-1,2,4-Triazole, 1,1'-carbonylbis- (CA INDEX NAME)



IC ICM A61K047-48
 CC 63-8 (Pharmaceuticals)
 IT Crosslinking agents
 Immobilization, biochemical
 (preparation of bioactive polymers by covalent binding of amino group-containing ligands)
 IT 111-30-8, Glutaraldehyde
 RL: RCT (Reactant); RACT (Reactant or reagent)
 (crosslinking agent; preparation of bioactive polymers by covalent binding of amino group-containing ligands)
 IT 9004-34-6, Cellulose, biological studies
 RL: PEP (Physical, engineering or chemical process); RCT (Reactant);
 THU (Therapeutic use); BIOL (Biological study); PROC (Process); RACT
 (Reactant or reagent); USES (Uses)
 (preparation of bioactive polymers by covalent binding of amino group-containing ligands)
 IT 98-59-9, Tosyl chloride 506-68-3, Cyanogen bromide
 530-62-1 1648-99-3, Tresyl chloride
 7631-86-9D, Silica, hydroxy-terminated, reactions
 7693-46-1, 4-Nitrophenyl chloroformate 9001-12-1,
 Collagenase 9001-63-2, Lysozyme 9002-07-7,
 Trypsin 9002-88-4D, Polyethylene, hydroxy-terminated
 9002-89-5, Polyvinyl alcohol 9041-36-5, Sephadex
 G-200 41864-22-6, 1H-1,2,4-Triazole, 1,1'-carbonylbis-
 RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of bioactive polymers by covalent binding of amino group-containing ligands)

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